

Housing Affordability and Transit-Oriented Development: Federal Choices and Local Outcomes

by

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Abstract

The Partnership for Sustainable Communities, an interagency effort created to harmonize policy between several federal departments, represents a growing consensus that metropolitan policy should encourage compact, transit-based urban development in addition to the sprawling, car-dependent forms that have characterized most new development in the U.S. since World War II. Central to this vision is the promotion of affordable housing in walkable districts built around public transit (transit-oriented development, or TOD). However, affordable housing and TOD both face obstacles that make them more challenging than other development options in the marketplace. Beyond that, the two types of development can exist in tension with one another; for example, TOD tends to increase real-estate prices, but affordable housing often requires stable costs. Combining these development types may only compound this inherent complexity. This paper asks how the new federal commitment to affordable TOD might interact with the market, policy environment, and public appetite for such projects. Through policy analysis and case studies of regions attempting to implement these goals, it examines the conditions, practices, and policies that affect TOD and affordable housing, and suggests local and federal actions to best address the tension between these goals.

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Introduction

The Partnership for Sustainable Communities, a federal interagency effort created in 2009, is a representation at the federal level of a growing consensus that the character of metropolitan development should change direction from the dispersed, automobile-dependent, segregated-use forms that have been cultivated by a variety of public policies since World War II, and encourage compact, walkable urban forms in which public transit plays a central role. Advocates of this position cite benefits both environmental (reduced automobile use, road congestion, and pollution; more efficient resource use in the built environment) and social (household cost reductions, improved job access, urban revitalization) that can positively impact individuals and governments from the local to the federal level (CNT, 2010a; Dittmar & Ohland, 2004; Ewing et al., 2008).

Transit-oriented development (TOD)—the design and development of compact, walkable, multiple-use districts well served by transit—is central to the goals of the Partnership (especially its principle of providing greater transportation choice). Among the benefits cited for urban regions pursuing improved transit¹ and TOD are reductions in traffic congestion and greenhouse gas emissions, lower infrastructure costs, and improved physical health of residents due to greater opportunity for physical activity (CNT, 2010a; Ewing et al., 2008).

Many advocates also make an argument based on social equity: that TOD can reduce household transportation costs so that families at all income levels can experience a reduced cost of living and lessened exposure to fluctuations in fuel costs. Intertwined with these direct savings is improved job access, which is among the goals of several employment and welfare-to-work

¹ Unless otherwise qualified, the term *transit* in this paper will refer to the infrastructure and vehicles of fixed-guideway forms of public transport—commuter and heavy rail (subways), light rail, streetcars, trolleys, and bus rapid transit. This does not discount the importance of traditional bus transit to urban transportation systems, but since at present bus transit alone cannot generally attract sufficient private sector interest in the development of transit-related projects, it is beyond the focus of this analysis (Cervero, 2004; Dittmar & Ohland, 2004).

programs over the past two decades (CNT 2010a; Lipman, 2006). Analyses of household transportation costs based on the transit accessibility of their location point to a benefit from better coordination between planning for transportation and affordable housing (CNT, 2010a; Haas et al., 2008; Lipman, 2006).

A central assumption for the broad realization of these social benefits is that households at a variety of income levels can afford to live in compact, transit-supported areas, whether in existing units or in new development. For the benefits to endure, a range of housing costs must remain available over the long run. Empirical findings on the interaction of transit investments and TOD with real-estate markets (Cervero, 2004; CTOD, 2007; Gruen, 1997), together with a body of work on affordable and mixed-income housing (Downs, 2004b; HUD, 2010a), suggest that policymakers face a challenge in supporting transit-accessible neighborhoods that can attract households across the income spectrum.

The private market, left to its own devices, will likely not provide a mix of housing affordable to various income levels, especially in regions where initial rail transit construction is recent or ongoing. If a range of housing types does exist within a transit corridor, the ranges will tend to cluster by affordability, with development dollars flowing to the upper end of the market (either through upscale new construction or conversion of affordable units to market rate as prices rise around transit stations). Meanwhile, station areas with concentrations of low-income housing, especially public housing, will have a harder time attracting new private development, whether residential or commercial. These types of outcomes are not limited to housing in transit areas (private developers having greater economic incentive to build for upscale markets in general), but development that is both transit-oriented and broadly affordable faces a level of administrative and financial complexity that may be daunting to private and public entities alike,

regardless of their level of community and governmental support (CTOD, 2007).

While federal influence over metropolitan development grew enormously over the 20th century (reaching its apex at midcentury with the advent of the Interstate Highway System and Urban Renewal policies), primary responsibility for the policies and decisions that shape urban areas has remained in the hands of local and state governments. Key federal policies, especially transportation investments and homeownership supports, powerfully affected where and how growth took place within urban regions. These programs have often been poorly coordinated with other federal measures in the urban arena, such that policies and agencies have often worked at cross-purposes (Mallett, 2010).

The Partnership for Sustainable Communities is an attempt to remedy this cross-agency policy struggle. However, the Partnership is dwarfed by the scale of the federal investments that shaped urban regions in the 20th century, and makes its debut in an era marked by ongoing devolution of authority and cost burdens from federal to state and local governments. From this perspective, what the Partnership will be able to achieve will be marginal compared to what it attempts to address.

Several metropolitan areas across the country have already been working toward goals similar to the Partnership's on various scales. Based on these regions' experiences, this paper will examine how key goals of the new federal interagency Partnership—affordable housing within TOD, with both affordability and TOD as aspects of greater regional competitiveness—are likely to interact with the markets and policy environments typical of metropolitan regions in the United States. The paper will also describe the conditions, practices, and local and federal policy tools that address the tension between transit investments and TOD on one hand, and the creation and preservation of affordable housing on the other.

Historical Overview, Policy Context, and Current Literature

After an overview of the newest federal urban policy effort, this section will briefly summarize the history of the governmental role in the growth and development American urban regions and urban transportation, with an emphasis on the evolving federal role. It will then review the federal and local policies affecting transportation, affordable housing, and transit-oriented development.

The Interagency Partnership for Sustainable Communities

Created in 2009, the Partnership for Sustainable Communities (“the Partnership”) is an interagency effort between the U.S. Department of Housing and Urban Development (HUD), Department of Transportation (DOT), and Environmental Protection Agency (EPA), intended to harmonize federal policy on several fronts with the central goal of helping families “gain better access to affordable housing, more transportation options, and lower transportation costs.” (EPA, 2009) To this end, it aligns efforts among the agencies in support of six “livability principles”:

- Provide more transportation choices
- Promote equitable, affordable housing
- Enhance economic competitiveness
- Support existing communities
- Coordinate and leverage federal policies and investment
- Value unique characteristics of communities, no matter their size (EPA, 2009; HUD/DOT, 2010)

In practice, the Partnership has so far represented more a realignment of existing programs than a major shift in the policy environment. Each agency retained its existing regulatory authority, funding, and administrative structure, and as of late 2010 only HUD and EPA had created offices specifically dedicated to the effort. Congress initially gave the Partnership about \$150 million in grant-making authority under HUD’s Community Development Block Grants in FY2010, though DOT has made additional grant monies available

that conform to the six principles. FY2011 agency budgets propose an increase to \$688 million across the three agencies (\$527 million in DOT, \$150 million in HUD, \$11 million in EPA), with initial monies mostly dedicated to planning, capacity-building, and technical assistance grants, along with the creation of a sustainability office within DOT (OMB, 2010; DOT, 2010; HUD, 2010b). In addition to programs explicitly linked to the partnership, various other federal programs have adjusted their priorities and grantmaking criteria to reflect the livability principles.

The following sections outline the historical and existing context of the major policies—from the federal level to the local—relevant to the Partnership’s support of TOD and housing affordability. Later sections will bring this context together with studies of several regions’ recent and ongoing experience in creating transit-centered districts for residents of various income levels, and explore the range of tools available to public- and private-sector stakeholders.

U.S. Urban Growth, Transportation, and Housing Policy in Historical Context

The story of metropolitan growth in the United States was initially one of concentration, centralization, and a mixture of social classes, activities, and land uses, followed by an era of increasingly decentralizing forces that served to segregate both people and activities, a trend that was accelerated after World War II by federal housing and transportation policies. The present moment seems to signal, if not a reversal, at least a slowing of this decentralizing trend, as citizens and decision-makers at every level of government grapple with the social, environmental, and fiscal consequences of a half-century of car-centered, segregated-use planning and placemaking (Dittmar, Belzer, & Autler, 2004; Ewing et al., 2008; Hayden, 2003). Since this paper is largely concerned with the federal role in what are fundamentally local or regional outcomes, this overview will place greater emphasis on how federal policies have

influenced the metropolitan landscape over time, though it will also describe the major social and technological trends and market forces that underlie this historical evolution.

The emergence of the United States as an industrial and cultural power is encapsulated in the growth of its cities and towns out of rural beginnings. The population of the United States was overwhelmingly rural at the start of the 19th century, with an urban population² of some 320,000 out of national population of 5.3 million. By 1900, 30 million out of a population of 76 million lived in urban areas, and by 1920, the majority of the population was in cities and towns, a proportion that continued to grow over time. The rural population has remained fairly steady at 50–60 million for the last century; the vast majority of growth since 1900—an increase of more than 205 million—took place in urbanized places (Census Bureau, 1975, 2010).

The earliest American cities were built only to a scale and density that could accommodate foot, animal-drawn, or waterborne traffic. Populations were similarly constrained, as neither people nor goods could travel faster than wind, water, or animals could move them (Jackson, 1985). Not until 1840 did any American city surpass 250,000 residents and only in 1880 did any city surpass one million (New York City in both cases) (Census Bureau, 1975).

The edges of 19th-century cities grew outward with scores of small-scale transit lines, starting with horse-drawn omnibuses to outlying areas of Boston and Manhattan as early as the 1820s, and later with horse-drawn, rail-guided cars and trolleys, which were electric by the 1880s.³ The services were privately owned, with the primary business of many of the owners actually being speculation on land along the lines. Municipal control was generally limited to the granting of franchises to operate along particular public rights of way; fares, routes, and

² Roughly defined as people living in incorporated places of more than 2,500 residents.

³ This is not an exhaustive summary of American mass transit: Beyond horses or carriages for hire, ferries were perhaps the earliest form of public transportation in North America, with chartered services serving New England almost from the start of European settlement. Stagecoaches were part of the landscape from the mid-1700s, though they generally traveled between terminuses without picking up passengers, as the omnibuses did (Jackson, 1985).

frequency were likely to be left to the individual operator.

By the last decades of the 19th century, streetcars, along with their adjunct business of land speculation (and sometimes electric power), were highly profitable for their owners. In the largest cities, transit systems grew to include electrified rapid transit within town and rail lines serving the wider region. The regional services included both downtown-oriented commuter rail and electrified interurban lines. Cities began to add motorized bus services by 1915, often using them to replace trolleys and streetcars (Hayden, 2003; Hilton & Due, 2000; Jackson, 1985).

Levy (2009) and Jackson (1985) suggest that the suburbanization of the workforce also helped pull industry itself out of the city. As streetcars and railroads continued to bring residents to the city's edges, some manufacturing and commerce began to move out to the urban fringe as well. Lower land prices and larger uninterrupted building footprints were more valuable for some businesses than a central downtown location. Cities were freed to cover vastly more area, beginning the movement toward the modern, decentralized metropolis.

As long as the two ends of most trips were taken on foot, these decentralizing forces were checked at the neighborhood or district scale by the distance constraints of a fundamentally pedestrian orientation. According to Jackson (1985), “the pattern of settlement in the streetcar metropolis [was] essentially finger-shaped. New homes were constructed and sold only within walking distance of the rail transportation corridors,” while “distance from a streetcar or elevated line usually produced an inferior neighborhood” (p. 181).

The 20th century: fragmentation and decentralization. The wide adoption of the private automobile was the single most important factor shaping American cities in the 20th century. The speed, autonomy, and granularity of travel that cars offer, combined with such planning and engineering innovations as single-use zoning and limited-access highways, allowed

the decentralizing forces that had sprouted in the previous century to reach full bloom. Federal housing and transportation policy cemented this decentralization after World War II, in the process hollowing out many cities and creating a built legacy that leaves many regions unable to implement effective public transit or promote compact development even if they wanted to.

At the start of the new century, urban transit was at the greatest extent of its coverage and use, and the built environment reflected this wide availability. Electrified trolleys, streetcars, and interurban railroads provided local and regional transit service throughout the Northeast and Midwest; urbanized areas as remote as the mountain towns around Salt Lake City had reliable service by the start of World War I (Hilton & Due, 2000). Beyond local transit, the long-haul railroads connected the downtowns of major cities, creating a continuous web of motorized transportation across the U.S., none of which relied on individually operated vehicles.

Though reformers had been pressing for municipal ownership for decades, a switch to public control of urban transit systems didn't begin until the lines' profitability fell off after 1920, around the same time that the subdivisions along many of them were built out (Hayden, 2003). However, private urban transit was definitively finished off by the Great Depression. In this period, transit ownership was consolidated into larger holding companies, which were eventually absorbed into public entities with debt and taxation authority. Many lines were simply closed, their assets sold off or abandoned, especially the interurbans, which all disappeared by 1960⁴ (Hilton & Due, 2000; Karr, 2005). Cities followed a common trajectory of private transit systems ending in public consolidation and control of regional transportation⁵ (MBTA, 2010;

⁴ The Chicago region's South Shore electric line is the lone remnant of the U.S. electric interurban system.

⁵ Among large urban systems, New York subways were city-owned from 1940, and all local services were consolidated in 1953 under the New York City Transit Authority. Boston's rapid transit came under the control of a quasi-public entity in 1894, which soon controlled most service in city. By 1964 the Massachusetts Bay Transportation Authority had succeeded this entity and absorbed the region's commuter rail lines. The Chicago Transit Authority was created in 1945 to consolidate El, bus, and streetcar assets and services, though the Chicago

MTA, 2010; Young, 1998). Afterwards, the quality and coverage of public transit failed to keep up with urban growth. By the 1970s in most places, public transit was either absent altogether or had decayed to such a poor condition that many with a choice opted not to ride it.

The 20th century also saw the rise of greater control over the form, location, and nature of development. In reaction to the appalling conditions of the 19th century industrial city, urban health officials and activists pushed for municipal reforms in many arenas, resulting in the creation of building codes, improved sanitation, sewers, and water supplies, and the widespread extension of such seemingly basic amenities as sidewalks, street lights, and public parks. By establishing the legal basis for municipal regulation of the use of and activity on private property, these reforms laid the groundwork for the creation of municipal zoning ordinances regulating the uses, density, and built forms permitted on private land. After New York City established the nation's first citywide zoning ordinance in 1916, and the U.S. Department of Commerce drafted model zoning codes (1924 and 1928), many local governments followed suit, using zoning as a way to preserve “desirable” community attributes while imposing some control over the shape and character of development in a period of rapid growth (Hayden, 2003; Levy, 2009).

However, since zoning can limit the development of a property to significantly less than its highest economic potential, the post-1920 wave of ordinances faced vigorous challenges from landowners and property-rights advocates, who asserted that the laws amounted to a governmental taking of property without due process, contravening the 14th Amendment. In a pair of cases, *Village of Euclid, Ohio v. Ambler Realty* (1926) and *Nectow v. City of Cambridge* (1928), the Supreme Court found that a rational and fairly applied zoning ordinance fell within a municipality's power to regulate activity for the promotion of residents' “health, safety, and

transit lacked independent revenue authority until the 1974 creation of the Regional Transit Authority (which also had authority over commuter rail) (MBTA, 2010; MTA, 2010; Young, 1998).

general welfare” (*Euclid v. Ambler*, 1926; Jackson, 1985).

Many communities also discovered that zoning could be used to encourage development that would tend to attract “more desirable” residents and exclude those of the wrong color, income, or religion. A town zoned mostly for large-lot, single-family homes with no provision for accessory units would be affordable only to more affluent homeowners. If multifamily buildings were permitted, they could be zoned in ways that tended to favor wealthier consumers—by requiring large setbacks and limiting density, for example, driving up the amount of land required to accommodate multiple units, and driving up development costs in turn. Or if apartment buildings were permitted, it might be only in less desirable parts of town. Since the early zoning laws took effect against a backdrop of legal segregation, racially and religiously restrictive covenants at the subdivision and deed level further bolstered the ethnic and socioeconomic exclusivity that many communities were happy to encourage (Jackson, 1985, pp. 242–3).

The ethnic and economic sorting that resulted from zoning codes was further encouraged by housing and banking policy, especially after the federal government entered the mortgage market. The practice of “redlining”—the limitation or prohibition of mortgage lending in ethnic neighborhoods—was enforced by the loan and underwriting guidelines of Depression-era federal homeownership programs (Hayden, 2003; Jackson, 1985).

The earliest federal housing assistance originated when the Housing Act of 1934 created the Federal Housing Administration (FHA) to underwrite residential mortgages and home improvement loans, leading to the standardization of much longer term mortgages than had been the norm until then (20+ year fully amortizing notes, as opposed to the multiple 3–5 year terms that were then common). In the areas where the FHA was willing to underwrite (i.e., non-

redlined areas), this had the short-term effect of stabilizing the residential mortgage market during a period of tight financing, while stimulating homebuilding and the associated employment (Jackson, 1985; McCarty et al., 2008). Federal loans (both to individuals and to banks) and loan guarantees would be allowed only in ethnically segregated subdivisions, with the best loans reserved for high-appraising properties in all-white suburban neighborhoods. Together with the rise of exclusionary zoning, these policies choked off reinvestment in ethnically mixed inner-city areas, magnifying the Depression's impact and jumpstarting the inner-city decay and flight of wealth and population that would characterize the postwar period (Hayden, 2003; Jackson, 1985).

The dawn of federal affordable housing policy. Around the same time that the FHA entered the mortgage market, the first federally supported public housing was constructed under the Housing Division of the Works Progress Administration (WPA), which, like the FHA, existed for economic stimulus and job creation as much as for carrying out housing policy. The division bought land and built apartments for low-income families through a fairly top-down process, often with little consultation—or over the objections—of local officials where the projects were built. The Housing Act of 1937 formalized the federal role in low-income housing, replacing the Housing Division with the U.S. Housing Agency, HUD's institutional precursor. The agency's Low-Rent Public Housing program required states receiving assistance to create quasi-governmental public housing authorities (PHAs) to administer public housing locally. The authorities were the local conduits for federal funding of the development and operation of low-income housing throughout the country. After a wartime hiatus, the program was reactivated and expanded by the 1949 Housing Act, which also funded urban redevelopment under the “urban renewal” moniker (i.e. slum clearance and site assembly for large-scale projects), expansion of

FHA mortgage underwriting, and rural housing improvement.

The provision of urban public housing and suburban mortgage insurance remained the major federal roles supporting housing affordability through the end of the 1950s (McCarty et al., 2008). Housing acts of the late 1950s and 1960s extended assistance to specific low-income populations, while encouraging a growing role for private housing developers through various measures to lower development costs and ultimately reduce rents. The first direct rent subsidies were instituted under the Housing and Urban Development Act of 1965 (which also consolidated precursor agencies into the cabinet-level Department of Housing and Urban Development) (HUD, 2010c; McCarty et al., 2008). The subsidy program authorized local housing authorities to contract with individual private landlords for rental assistance in existing housing stock, paying the difference between qualifying tenants' contribution (25% of household income) and fair market rent. On the development side, cost control was through limitation of mortgage interest, a mechanism that was extended to individual homebuyers in 1968. The growing roles of private developers, rent supplements, and subsidies were also meant to expand the reach of federal housing programs beyond the poorest households and into households at moderate income levels, while limiting the size of the direct federal responsibility (McCarty et al., 2008).

Federal underwriting of suburbanization and the automotive era. While fairly affordable vehicles were available by the 1910s, the car did not become a universal feature of American life until after World War II. Several key federal programs created the road infrastructure necessary to promote the private auto's rapid rise to ubiquity, and almost without exception they encouraged the improvement or creation of roads in the countryside rather than in

cities.⁶ Development naturally followed (Jackson, 1985).

The Federal-Aid Highway Act of 1916 contained the first major federal funding for highway construction, requiring the creation of highway departments in states receiving the funds. Often the highway departments provided the institutional basis for later state departments of transportation that retained a bias toward rural roadbuilding as the default transportation expenditure. Later highway acts matched state funds for the creation or improvement of some 200,000 miles of primary highways across the country, designation of secondary highways, and a network to link all cities with populations of 50,000 or more. Although the country's rural population was nearly stagnant after World War I, not until the 1944 highway act were federal highway funds permitted to flow to urban roads at all; until then, the entire federal match went only to mileage that was rural at the time of designation (Census Bureau, 1975; Jackson, 1985).

The Federal-Aid Highway Act of 1954 and Interstate Highway Act of 1956 took the system further by providing for a network of more than 40,000 miles of limited-access, high-speed highways. The program, funded by a dedicated gasoline tax and promoted by a powerful consortium of road builders, carmakers and dealers, oil companies, and real-estate and home-building groups, was justified on grounds of safety, congestion-cutting, and Cold War civil defense (Jackson, 1985). Unlike the earlier federal-aid highway program, which funded highways in a 50–50 match with states, the Interstate program provided for a 90% federal share in the cost of highways—and these funds could be expended only on construction, not on maintenance, creating a bias for expansion of the road system at the margins rather than improvement of existing facilities (Census Bureau, 1975). Since much of the system was created from scratch and required the purchase of new rights of way, while also bringing millions of

⁶ Much of the push for a national highway system came from agricultural interests, such as the National Grange, seeking to establish a farm-to-market transportation system to compete with the railroads (Jackson, 1985; *New York Times*, 1912, 1920).

formerly rural acres into the urban orbit, the program represented a publicly subsidized windfall to land speculators and subdividers throughout the country (Hayden, 2003; Jackson, 1985).

These roadbuilding efforts, unmatched in any era at any level of government by a similar dedication to other modes, helped the private automobile thoroughly displace other forms of surface transportation. The individual auto was heavily subsidized while public mass transit was expected to be self-funding, both in capital and operations. At the same time, cheap land at the margins of the city became more accessible than ever. Coupled with the ongoing Baby Boom, federal guidelines that institutionalized a lending preference for detached single-family homes in newly built, low-density subdivisions, and zoning codes that mandated the physical separation of residential uses from all others, the interstates provided further accelerant to the atomizing and decentralizing forces of the first half of the century.

The speedy market penetration of the private car after World War II was matched only by the neglect or demise of its alternatives. The number of registered private automobiles overtook the number of households in the country in about 1955. The Census Bureau did not collect household car ownership statistics until after the war, but the first year surveyed, 1948, found that 54% of households owned at least one car. By 1960, 77% of households owned a car, and this proportion continued to climb until leveling out about 92% by 1995 (Census Bureau, 1975, Series Q175; NHTS, 2001, Table 17; USDOT Series MV-1, MV-200). Meanwhile, public transit ridership had peaked at more than 23.3 billion passenger trips nationwide in 1946 (more than 165 annual rides per capita), dropping steadily thereafter—1960 saw 9.4 billion trips (52 per capita) and 1970 only 7.3 billion (36 per capita). Transit railway track mileage had been declining ever since it was first measured in 1934; by 1960 it was one-tenth of what had existed 25 years before, and it had lost another third by 1970. Though the trackage decline was due in part to the

collapse of the electric interurbans and a transition to buses and trolleys, every public transit mode was in unquestionable decline by the mid-1960s (Census Bureau, 1975, Q235–7, Q241; Jackson, 1985).

Devolution of federal housing assistance. Measured in dollars, the most significant federal policy in the housing arena has long been the support of individual homeownership. The mortgage interest deduction for owner-occupied residences, while not originally created to promote homeownership, can nonetheless be seen as the largest single federal housing program, representing an estimated \$103 billion tax expenditure in FY2010, according to the congressional Joint Committee on Taxation (JCT, 2010). Mortgage insurance and underwriting by the FHA, VA, and other federal entities add to the federal support for homebuyers. For the most part these programs are not targeted at particular low-income or vulnerable populations, though in practice they serve as a backstop for many buyers the private market might not otherwise lend to at affordable rates (McCarty et al., 2008). Meanwhile, non-mortgage federal housing assistance has continued a gradual devolution of responsibility away from centralized federal administration and towards greater local control and individual responsibility, while funding has tended away from clear outlays and towards tax credits and other revenue-side expenditures.

Public housing remained the largest non-mortgage federal housing program through the early 1970s, with most other subsidies focused on developers rather than housing consumers—an emphasis on lowering construction costs rather than on keeping rents or mortgages affordable. The Housing Act of 1974 created the Section 8 rental assistance program, the beginning of a shift in the federal role away from public housing and construction subsidies and towards direct subsidies for low-income households. In part, this shift was intended to address the

concentrations of poverty that came to be associated with site-based subsidies for low-income housing. Initially, Section 8 subsidized both new construction and leases for existing housing, but construction subsidies were soon eliminated. In 1985, the program was further modified to allow the use of some Section 8 subsidies as more portable rent certificates, which also allowed some households to dedicate more than 30% of their income toward a regionally uniform “fair market rent.” Certificates and rent vouchers became an important component of a wave of housing reform that accompanied the welfare reforms of the 1990s. Section 8 saw further modification with the Housing Choice Voucher Program, which was authorized in 1998’s Quality Housing and Work Opportunity Reconciliation Act (QHWRA) (McCarty et al., 2008).

Besides the move to more tenant-based assistance, the other major current in housing and urban development policy was a growing role for state and local governments and private developers, both in planning and in paying for affordable housing, as well the beginnings of a view of community development that went beyond housing. In practice, this meant a preference by federal policymakers for more flexible block grant and tax credit programs, accompanied by the devolution of responsibility for planning and administration of housing policy to local entities. The Community Development Block Grant (CDBG) program, created in 1974, represented an important broadening of HUD’s focus, and is emblematic of the increasing devolution of administration of federal programs to local entities starting in the 1970s.

The Low-Income Housing Tax Credit (LIHTC) program exemplifies the shift of responsibility away from Washington. LIHTC is a credit against private tax liabilities, available to the private developer of housing but assignable to other entities in order to offset construction costs, with planning and prioritization of the credits’ overall distribution a state responsibility (HUD, 2009; McCarty et al., 2008). Because the program works by reducing federal tax revenue,

it does not appear as an outlay in the federal budget and requires no appropriation, even though it has the same net effect on the budget. The Joint Committee on Taxation (2010) estimates that the value of the LIHTC tax expenditure will be some \$6 billion annually from 2009 to 2013.

In 1998, the QHWRA also worked to deregulate public housing authorities and allow them greater “flexibility” in their use of federal funds for public housing. As public housing fell out of favor, many existing public housing units, especially in the large Urban Renewal-era projects, were demolished under HOPE VI and other programs, with their place more often taken by Section 8 vouchers than by newly constructed or rehabilitated units (McCarty et al., 2008).

Together, these changes represented a major shift of discretion and financial burden away from HUD and the federal government and onto state and local housing authorities, Community Development Corporations, nonprofits and other private players. While many communities eagerly engaged in the demolition phase of housing reform, efforts to house displaced residents have rarely been as energetic. The rate of creation of new affordable units (either through construction or rehabilitation) has dropped off significantly as the direct federal role has waned, and many of the units still created under HUD programs can revert to market rates after a certain contracted duration. The end result is that the number of subsidized units has decreased each year since 2001 (McCarty et al., 2008). Federal outlays and unit counts are detailed in Appendix A.

Nadir and renaissance of central cities. By the 1980s, the decentralization of American metro areas reached perhaps its greatest velocity in the “Edge City,” a term coined by Garreau (1991) to describe the vast new commercial districts appearing seemingly overnight along highways in formerly rural or residential areas, places like Tysons Corner, VA, Schaumburg, IL, or Houston’s Galleria area. These satellite downtowns were the embodiment of jobs following the flight of population from central cities, which had been taking place since the 1950s

(Garreau, 1991; Jackson, 1985).

The share of metro populations living in central cities declined from 56% in 1950 to 32% in 2000, with the greatest declines seen in the 1970s, when city populations contracted in most metro areas (Boustan & Shertzer, 2010). A number of central cities began to experience a renaissance in the 1980s, with immigrants and childless households driving central city growth rates to match those of suburban areas in many metros by 2000. Of 93 metro areas studied by Boustan and Shertzer (2010), 55 added central city population over the second half of the century, even though their share of metro population declined. However, nearly as many metro areas in the study (38) lost central city population in every decade since the 1940s, adding up to significant real declines.⁷ Throughout the country the overall tide of metropolitan growth remains overwhelmingly suburban. Not surprisingly, the demographic trends driving the downtown renaissance seen in many cities are the same ones driving demand for housing near transit (Boustan & Shertzer, 2010; Cervero, 2006).

Trends shaping future housing and transportation demand. Several converging demographic trends point to increasing demand for transit, and more densely built housing in walkable neighborhoods near it, in coming decades. Perhaps the most significant trends are the increasing racial and ethnic diversity of the U.S. population (due in part to new immigration from Latin America); the aging of the Baby Boomers; and the entry of the Echo Boomer generation (those born 1981–2000 or so) into the housing market (CTOD, 2004; FHA, 2006c; JCHS, 2010). Growing cultural diversity, from both natural population change and immigration from non-European countries, suggests that travel patterns and mode choices are likely to vary from the dominant patterns of recent decades. For planners and policy makers, this points to a

⁷ Veteran-headed households were far more likely to live in the suburbs than in the city, suggesting the influence of VA-backed mortgages in driving suburbanization during the postwar housing boom (Boustan & Shertzer, 2010).

period of uncertainty as “the normal distribution of key population characteristics used to forecast travel demand is changing” (FHA, 2006c, ¶2).

In the travel side of the equation, these differences can be seen in the findings of the National Household Travel Survey (NHTS, called the Nationwide Personal Travel Survey until 2001), a survey of travel behavior conducted by DOT since 1969. The 2001 NHTS showed that, before even taking immigration into account, non-Hispanic whites were more likely to be drivers at every age, and also to drive more miles annually, than African Americans or Hispanics. Part of this difference is attributable to income discrepancies and higher rates of workforce participation among whites, but it likely also has a cultural component. The corollary of this finding is that minority travelers, especially at the low end of the income scale, are more likely to use public transit and to have smaller ranges of daily activity (FHA, 2006a).

Another major story of the next half century will be the continued growth of the Hispanic population, by both natural increase and immigration.⁸ More than half of the net population increase in the U.S. between 2000 and 2008 (11.6 out of 22.6 million people) was attributable to people of Hispanic origin, and the demographics of this population point to strong future growth: the Hispanic population grew faster than any other ethnic or racial subgroup of the population, and is younger and tends to have larger family size than the population at large. Hispanic people of any race had a significantly lower median age (27.7 years) in 2008 than both the U.S. population as a whole (36.8 years) and the non-Hispanic white population (41.1 years) (Census Bureau, 2009).

Immigrants—foreign-born people of any ethnic origin and legal status—are a growing

⁸ The Census Bureau classifies “Hispanic origin” as a category separate from, and in addition to, race, complicating the already fraught definition of minority status in the U.S. Unless otherwise qualified, this paper will use the term *Hispanic* to refer to the Census Bureau’s grouping of people of Hispanic origin of any race—while recognizing that this group of more than 45 million people represents anything but a bloc of social or political characteristics.

proportion of the population, increasing from 32 million (or about 10% of the U.S. population) in 2000 to 37 million (12%) in 2008 (Census Bureau, 2009). The foreign-born tend to have different household and travel characteristics than the population at large, though these differences are moderated the longer immigrants are in the country. Recent immigrants (those who have been in the U.S. three years or less), of whom almost half were Hispanic in 2000, differ from nationwide averages in a variety of ways, many of which drive transit ridership. The 2001 NHTS found that new immigrants lived in larger households, had a lower proportion of drivers at every age level, and owned fewer vehicles per household even though there tended to be more workers in immigrant households.

Though immigrant households took more daily trips than those of non-immigrants, this was attributable almost entirely to larger household size; individual new immigrants made about five fewer trips per week than the native born. Looking at housing characteristics, new immigrants were far more likely to rent than own their homes, tended to live closer to their workplaces, and were likely to cluster near other immigrant households in central-city ethnic enclaves (Blumenberg & Evans, 2010; FHA, 2006c). Not surprisingly, new immigrants also depended on transit more than the native-born, and were also far more likely to make trips to work with several other riders.

Many of these differences moderated with longer residency and a common trajectory that sees immigrant households moving from central-city enclaves out to more auto-dependent suburbs; but key measures, like the percentage of households owning no vehicles, and also those riding transit to work, remained higher than the U.S. average even for people who have lived in the country for as long as 20 years (Blumenberg & Evans, 2010; FHA, 2006c). Hispanic origin and gender add another dimension to these differences: Hispanic immigrants are less likely to be

drivers and more likely to live in no-vehicle households than non-Hispanic immigrants, a difference that persists even after more than a decade in the U.S. And at every length of tenure, immigrant women were less likely to be drivers than the native born, with Hispanic immigrant women the least likely drivers of all (FHA, 2006c). This points to a large and fast-growing segment of the American population who will continue to depend on transit for many daily trips.

Another trend driving demand for transit and housing near it is the aging and retirement of the Baby Boomers. The sheer size of the cohort gives it an outsize impact as this generation moves through every phase of life, and retirement and old age will be no exception. People born in the first full year after World War II will turn 65 in 2011, marking the unequivocal start of the era of Boomer retirement. The Census Bureau (2009) projects that the over-65 population will nearly double, to some 73 million, by 2030; by 2050, one in five Americans will be over 65. This translates to a larger non-driving, and increasingly transit-dependent, population.

Surveying older Americans, the AARP found that some 20% of respondents over age 65 do not drive at all, and that access to transit was of central importance for non-drivers' access to medical and community services and to continued social interaction (Harrell, Brooks, & Nedwick, 2009). Moreover, among those who continue driving, a decline in driving skills along with greater vulnerability to injury translate to much higher rates of injury and death than younger drivers (NHTS, 2001).

In the AARP report, Harrell et al. (2009) point to walkable neighborhoods and quality transit service as central to preserving older people's independence. CTOD (2005), modeling the demand for housing in TOD areas in 2025, found that demand will likely be heavily driven by households headed by people over 65. Although numerically fewer than younger cohorts in the model, these households are projected to prefer TOD housing at a higher rate than the younger

groups. Though older households represented about 28% of the total population in the study, they accounted for some 35% of projected TOD demand. Much of the urban renaissance since the 1990s has been driven by Boomers moving out of the large suburban homes in which they raised children, and into smaller units in better pedestrian environments (Dittmar et al., 2004).

Older Americans' increasing demand for more appropriate forms of housing also portends greater demand for affordable units, as people stop working and turn to fixed sources of income. The supply of these units is wanting: looking at federally assisted housing in 20 metropolitan areas, comprising some 400,000 residential units in all, Harrell et al. (2009) found that of the roughly 255,000 units located within a half-mile of rail stations or frequent bus service, some 176,000 were under contracts that would expire by 2014.

A related demographic pressure is the preference of the Echo Boomers for dense urban locations. This is the cohort (also known as "Millennials" or "Generation Y") born roughly 1981–2000, a group already more numerous than the Baby Boom generation at around 81 million and projected to grow even larger through immigration (Census projections for 2025 range from 86.5–92.9 million, depending on immigration) (JCHS, 2010). Whether this urban preference lasts far into their childrearing years remains to be seen, but thus far Echo Boomers have expressed a preference for small-lot housing and walkable neighborhoods. Though the rate of household formation has been slowed by the poor economy (recently dropping to about one quarter of the pre-recession rate), the Echo Boomers' generational size will be a central driver of the housing market over the next several decades (McIlwain, 2010).

The preference for urban living is partially attributable to changes in household makeup: Americans are delaying having children and living for longer as singles or in households that are smaller or composed of non-family residents, all of which makes it more likely that they will

remain in urban locations, and the economic downturn has only intensified this trend (CTOD, 2004; Dittmar et al., 2004; Harrell et al., 2009; JCHS, 2010). At the very least, the numerical strength of this generation means that the market is likely to feel a greater demand for compact urban living for many years (McIlwain, 2010).

But will American households abandon their cars just because they move to dense, pedestrianized environments? While increased transit usage does not automatically follow from a preference for compact development, living in it does make transit usage measurably more likely at the household level. Arrington and Cervero (2008) found that, even controlling for income, household transit use—for both work and non-work trips—is 2–5 times higher in TOD areas than in typical regional locations. TOD-area household car ownership is about half that of non-TOD areas, with about twice the proportion of non-car households. Bush (2003), modeling the travel demand of over-65 cohorts over time, forecast that the retiring Boomer generation will be more likely to make trips by transit or on foot than previous cohorts, despite greater lifetime usage of personal autos, and that the impact of transit availability close to homes will be accordingly greater.

The Current Policy Environment

Federal Transportation Policy

Urban transportation policy in the United States is largely shaped by the multi-year surface transportation reauthorization bills passed by Congress about twice a decade. By setting the nation's transportation infrastructure funding priorities, specifying what types of projects the federal government will be willing to support, and creating the statutory environment for state and local policy, these laws have an immense influence on the form of urban transportation systems in the U.S.

The transportation reauthorization is often referred to as the “highway bill,” since it is an outgrowth of the highway construction acts regularly passed since World War I; nearly three quarters of the spending it authorizes is for interstate and federal-aid highways, and its major revenue source is the federal motor fuel tax. However, a portion of the revenue and spending under the bill is specifically dedicated to mass transit (about 21% in FY2009). Most of the major non-road surface transportation programs that the federal government administers are authorized under the law (Mallett 2010; DOT 2010a).

In the last two decades, the major reauthorizations have been the Intermodal Surface Transportation Act of 1991 (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21, 1998), and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, 2005). As is usual with these large, regionally divisive, and earmark-laden bills, the initial authorization of SAFETEA-LU expired in 2009 and has been extended several times without major changes while forces gather to shape the reauthorization. The reauthorization process, during which funding formulas are rewritten and the flow of revenue and spending can change significantly, has the potential to be one of the more contentious battlegrounds of the next session of Congress, albeit one in which partisan divisions may be subordinate to alliances along regional or urban/rural lines. The anti-earmark rhetoric currently in vogue might make this reauthorization even more contentious than it would already have been (Brookings, 2008).

Since 1962, the highway bills have required urban areas to engage in long-range planning as well as shorter-range setting of capital priorities. After the Federal-Aid Highway Act of 1973, many of these planning activities were lodged in new regional entities known as Metropolitan Planning Organizations (MPOs), decision-making bodies made up of local elected officials,

officials of key transportation operators or agencies in the region, and representatives from state transportation agencies. Though required by federal law, MPOs are constituted under state laws, and their makeup and authority vary from state to state. While some MPOs are extensive operations with large professional staffs, power over many activities beyond transportation planning, and authority for taxation and debt issuance, many are little more than small offices supporting a policy board that meets to ratify decisions in accordance with statutory requirements, with most actual planning work outsourced to consultants (Mallett, 2010).

The two central activities of all MPOs are the periodic development of a 20-plus year Metropolitan Transportation Plan (MTP) and also of a shorter-range capital program, the Transportation Improvement Plan (TIP). The TIP must cover a four-year horizon and be “fiscally constrained,” meaning that proposed capital programs must have a realistic source of budgetary support should they be constructed (Mallett, 2010).

Because of allocation formulas and other requirements in the federal authorization bills, state DOTs retain much of the power over transportation spending, even within MPO regions. For instance, the TIP must be approved at the state level as well as by the MPO and be certified as being in accordance with state transportation plans; furthermore, only projects within a TIP can receive federal support. In areas with air pollution problems, MPOs must also conform to state pollution compliance plans (Downs, 2004a; Mallett, 2010).

Section 5309 (New Starts) funds, the major source of capital financing for new transit projects and large expansions, are subject to a complex multiyear planning process, involving strict cost-effectiveness, environmental, land-use, and operating-efficiency criteria that reach beyond a project’s ability to address congestion or transportation needs; the impact on low-income communities and regional employment access are also considered. While these criteria

no doubt contribute to the creation of stronger transit projects, they are not matched by similar regulatory rigor in highway construction or expansions, making for a planning process that is far more complex, expensive, and economically fraught for transit than for highway projects. For example, despite the power of highway projects to remake regional land-use patterns, land-use modeling or analysis of alternative scenarios are not required for receiving the federal match for new highways, and the environmental review process need not look far beyond direct corridor impacts; assessments of potential effects on job access or other economic impacts are not required (Beimborn & Puentes, 2003).

Beyond this sort of programmatic comparison, the limited discretion of metropolitan regions has led some observers to argue that, since many state DOTs have traditionally been dominated by rural interests, urban areas are at a disadvantage in the apportionment of highway funding, both in terms of the types of projects funded and the amount of funding (Beimborn & Puentes, 2003; Downs, 2004a; Mallett, 2010). According to Mallett (2010), this results in a preference for road improvements designed to move volumes of vehicular traffic at high speeds, with “less emphasis on transportation improvements . . . suited to urban environments, including roads [that] accommodate bicyclists and pedestrians, operations and management improvements such as signal timing, and the use of ‘highway’ funds for other modes such as transit” (p.7).

The majority of federal transportation funds are allocated according to formulas based on the extent of highways and miles traveled and fuel used in a state, which encourages ongoing highway construction and increasing travel (along with high fuel consumption) so that states can maintain funding levels. Efficiency increases and congestion mitigation can reduce a state’s allocation. These factors add up to a funding structure that favors highway construction at a metro area’s unpopulated fringes rather than road or transit investment in existing communities,

especially dense central cities and inner suburbs (Puentes & Bailey 2003; Brookings, 2008).

Recent transportation bills have at least begun attempting to address the state–region power balance and anti-urban funding bias. Since ISTEA, each successive transportation reauthorization has gradually increased the authority and discretion of MPOs, while at the same time expanding their responsibilities to theoretically include planning for congestion mitigation and air quality (Mallett, 2010). However, Beimborn and Puentes (2003) and Brookings (2008) find that there are still numerous policy areas in need of reform, perhaps the most serious being that there is simply no coherent set of goals at the center of federal transportation policy. This lack of federal leadership, along with reliance on fuel tax as the key revenue instrument, has the result that “each reauthorization cycle is dominated by parochial interests around funding,” in which the most contentious debates concern the match between various states’ fuel-tax revenue contributions and the funding they receive in return (Brookings, 2008, p. 47). In such an environment, the establishment and pursuit of a clear set of national, or even regional, transportation priorities is unlikely.

Reform of the revenue structure for transportation funding will be central to any major changes in the way monies are allocated between states and metropolitan regions. Compounding this issue, inflows to the Highway Trust Fund—the dedicated repository for revenues from the federal fuel tax—have been outstripped by outflows for several years, so Congress had to authorize emergency transfers from general revenues in every year since 2008. Thus revenue reform must figure heavily in the next reauthorization. Depending on who authors the reforms, this could create significant changes in the funding stream for urban transportation projects (AASHTO, 2010; FHWA, 2010).

Current federal urban transportation programs. Within the current authorization and

revenue structure, the federal transportation programs most relevant to the transit-centered aims of the Sustainable Communities Partnership are the FTA's Urbanized Area Formula Funding; the New Starts and Small Starts programs; the Job Access and Reverse Commute Program; and, to the degree that they support the creation of walkable environments and streetscapes, the FHA's Transportation Enhancements and Bicycle and Pedestrian Programs (HUD, 2010a).

Several one-off federal funding mechanisms, created under the aegis of the recent economic stimulus efforts, are also worth mentioning. The FTA announced in December 2009 the availability of \$130 million of capital funding for "urban circulator" projects, streetcar and trolley systems (like that in downtown Portland) that "connect urban destinations and foster the redevelopment of urban spaces into walkable mixed use, high density environments" (FTA, 2009). However, these funds are from unallocated New Starts/Small Starts monies⁹, not a new program, and proposals are subject to the same requirements as any other New Start project, with the additional requirement of addressing Partnership's six livability principles.

The American Recovery & Reinvestment Act of 2009 (ARRA) fast-tracked federal funding for several dozen major infrastructure projects, not necessarily limited to urbanized areas, under the Transportation Investment Generating Economic Recovery (TIGER) grant program. Of \$1.5 billion in TIGER grants, less than a quarter went to highways, with a slightly greater amount going to transit projects and the majority to freight rail and intermodal projects (Freemark, 2010).

A second round of infrastructure grants, dubbed TIGER II, was announced in spring 2010¹⁰ (DOT, 2010b). Of the total, \$35 million was specifically dedicated to planning in joint

⁹ A portion of these funds had originally been allocated for BRT projects in Chicago and New York City, but were forfeited because the cities failed to establish required local revenue mechanisms to match the federal investments.

¹⁰ The main difference from the initial round is that TIGER II requires a minimum of \$140 million go to rural projects; also, the grants come out of regular DOT FY2010 appropriations rather than ARRA funds.

HUD/DOT efforts, with grant applications evaluated according to the Partnership principles. Grantees included several projects centered on downtown train stations and one project that converts a downtown expressway into a pair of boulevards, removing lanes and lowering speeds while reconnecting a disrupted downtown street grid (HUD/DOT, 2010; Snyder, 2010).

Community Development and Affordable Housing Policy

A number of policies, both federally and locally administered, are aimed at supporting housing affordability¹¹ for individual households as well as encouraging stability, development and growth in lower income communities. Though these broader community-building goals are not limited to addressing housing issues, the solutions are often centered on housing because of the institutional orientation of HUD and its precursor agencies. As with highways' outsize role in transportation policy due to the organizational structures created under federal highway authorizations, federal community development policy was for many years focused almost solely on housing poor or working class people. The state, local, and private-sector entities that appeared to administer these programs were similarly built around housing rather than the more ecological, crossdisciplinary approach many practitioners (including HUD itself) now advocate (Jackson, 1985; McCarty et al., 2008). An increasing number of agencies and jurisdictions are incorporating awareness of location and transportation choices, through mechanisms like the Center for Neighborhood Technology's H+T Affordability Index, into policy decisions and administrative formulas that can affect where housing and centers of employment are

¹¹ Housing costs can be expressed in various ways, with perhaps the most obvious being home sale prices and gross rents. Costs can further be expressed as a proportion of income, or a burden. In this case housing costs are standardized as a monthly cost (principal, interest, taxes, and insurance for homeowners, or rent plus expenses for renters). The definition of affordability used by most governments and lenders is a 30% burden, meaning that housing is considered unaffordable if it consumes more than 30% of a household's income from all sources (Burchell & Mukherji, 2004).

developed.¹²

The federal government's role is generally to establish major policy priorities and the funding and administrative structures to make them possible. The local role is often more about encouraging the creation or preservation of affordable units in specific locations through the exercise of land-use and development regulations, though some local policies, such as inclusionary zoning, can work to ensure the adequate supply of affordable housing in a municipality or region as a whole. The state role is a hybrid one, in some cases establishing policy and in others, especially in rural areas, directly administering programs.

Federal programs. Federal affordable housing programs can be divided into several categories depending on the governmental role. At one end of the spectrum is public housing—residential developments constructed, owned, and administered by public or quasi-public entities. At the other end are voucher-based tenant rent supports, in which a qualifying household receives an individual voucher that can be applied against market-rate rentals in the open market, offsetting the cost of rent. Another increasingly popular approach is to subsidize the development of lower income units through tax credits (McCarty et al., 2008).

HUD administers most federal housing programs. The existing programs and regulatory structures most relevant to the discussion at hand are Community Development Block Grants (CDBG), Low-Income Housing Tax Credits (LIHTC), HOME, the Self-Help Homeownership Program (SHOP), the HOPE VI program, community development loan guarantees (Section 108), Housing Choice, and rental assistance (both tenant-based and project based). The funding levels and unit counts under each program are described in Appendix A.

¹² For example, in May 2010, HUD announced that the department would formally incorporate location efficiency into HUD's scoring of grant applications, and a July 2010 Illinois law mandated incorporation of the index into capital investment decisions of Metropolitan Planning Organizations and certain state agencies starting in 2011 (ILPA 96-1255, secs. 20, 25(b), 2010; Schor, 2010).

Two new programs were recently funded in connection with the Sustainable Communities initiative, called Choice Neighborhoods and Sustainable Communities Regional Planning Grants. In addition, in October 2010 HUD announced recipients for another new program, the Community Challenge Planning Grant, which are competitive grants considered along with applications for DOT TIGER II funds (HUD/DOT, 2010). All of these programs draw their funds from within the \$150 million dedicated to the Partnership in HUD's FY2010 appropriation, though several of the programs are classified under other existing HUD programs.

The federal stimulus packages included four rounds of Neighborhood Stabilization Program (NSP) grants administered through the CDBG regulatory structure, targeting stabilization and redevelopment of the neighborhoods hardest hit by foreclosures, abandonment, and delinquencies in the wake of the housing bubble and subprime mortgage crisis.¹³ Several communities have used NSP grants specifically for preserving affordable housing near transit (Quigley, 2010).

In addition to these more direct subsidies, the federal government also supports the market through mortgage insurance for rental housing, and supports housing programs for a number of specific populations, such as the elderly, the handicapped, or people with AIDS.

State and local housing affordability tools. As noted above, federal affordable housing programs are generally implemented by local actors, both governmental and private, rather than by federal agencies themselves. Local governments have a fair degree of flexibility in how federal programs are implemented, especially CDBG monies, leading to considerable variation

¹³ NSP1 appropriated \$3.92 billion under the 2008 recovery package for formula grants allocated to state and local governments. The second wave, NSP2, awarded \$1.93 billion in competitive grants under ARRA; this set of grants was open to nonprofits in addition to state and local governments. ARRA also authorized \$50 million in technical assistance grants (NSP-TA) to assist grantees from the main program. A final wave, part of the 2010 Dodd-Frank financial reform act, allocated another \$1 billion under the NSP1 formula (HUD, 2010d).

across jurisdictions in the types of projects that are actually built or funded¹⁴ (Stegman, 1999). Community development corporations (CDCs) are commonly the local administrators for assistance and services from any number of public and private sources, and often develop, own, and manage affordable housing in their service areas (Hoch, Dalton, & So, 2000).

Of the tools whose authority originates with state or local governments, the most widely used are inclusionary zoning or mandatory set-asides; developer or community-benefit agreements; and mechanisms for holding and assembling land over the longer time horizons needed for non-profit development, such as land trusts and land banking funds.

Inclusionary zoning is a broad term for requirements that developers include a percentage of affordable units in certain residential developments (generally those above a given size threshold), along with controls on the return of those affordable units to market rate. The details vary greatly across jurisdictions, including required percentage of affordable units, qualifying income levels for those units, bonuses and incentives for participation, and options such as fees-in-lieu or off-site construction of the units. The ability to impose inclusionary zoning is usually based on municipal home-rule powers or explicit state authorizing legislation, and a few states have prohibited such regulations entirely. Many cities impose the requirements in exchange for concessions valuable to the developer, such as greater density, height, or lot coverage than permitted by underlying zoning; reduced parking requirements; or fee waivers or expedited review. The requirements are often limited to certain districts or overlay zones (Porter, 2004).

While inclusionary zoning is, in theory, uniformly applicable to all qualifying developments in a certain area, *developer agreements* are project-based arrangements between

¹⁴ The flexibility of CDBG monies can lead to their being used, under a variety of circumstances, to offset the cost of general government or even private sector functions in qualifying areas, such as street and sidewalk repair, snow removal, payments for loss of rental income, construction of private utilities, and even payment of the non-federal shares of other federal matching funds (24 USC 570.201).

developers and local governments, spelling out specific obligations and concessions by both parties. Generally they are part of a planned-development process for larger projects in which a developer wants to build at an intensity or size not permitted by existing land-use regulations. In practice, the agreements involve the same kinds of tradeoffs and can create the same kinds of affordability outcomes as inclusionary zoning, albeit on a project-by-project scale.

A related tool is the *community benefit agreement*, which is concluded between developers and community groups in a position to influence a project's approval, to ensure that local communities have a say in the development process and a legally enforceable mechanism for developers' promises (such as affordable units, environmental mitigation, infrastructure improvements, jobs, or wage levels). Done well, community benefit agreements can help guide development to better address fine-grained local issues, characteristics and concerns, and promote greater local influence over (and satisfaction with) the kind of development that takes place in a neighborhood (CDI, 2010). Developer agreements (and the planned development process) are also tools for creating TOD in places where land-use regulations would not otherwise allow for the necessary forms and intensities of use.

Land and housing trusts and *land banking funds* are tools that attempt to address the messy circumstances attending much affordable development. Since the development of affordable housing often involves multiple public and private financing sources with varying requirements and time scales, as well as complexities such as assembly of multiple parcels and brownfields remediation, it can take much longer than typical residential development to come online (especially when comparing an affordable redevelopment project in an older neighborhood to market-rate development in a greenfield area). In such lengthened development cycles, land acquisition and holding costs become a major impediment. Land banking funds and

trusts smooth out long development cycles by acquiring and holding property for a specific purpose as it becomes available, even if it is years before it will actually be developed; in areas with rising land costs or where planned improvements are likely to cause speculation this can significantly reduce the ultimate cost of development. Many jurisdictions also run affordable housing trust funds that provide financing at key points in the development process, often at low or zero interest (CTOD, 2007, 2008b; Stegman, 1999).

Most of the tools discussed thus far support the development of affordable housing, but the preservation of existing affordable stock is of equal importance. Many preservation programs focus on federally subsidized units that are nearing the end of their contract periods, and work by requiring notification of residents before contract's end and providing an option to purchase units at a fair price before they go on the open market. Another broad class of tools focuses on the preservation and improvement of unsubsidized, privately-owned units, through such tactics as restoration and renovation of abandoned, condemned, or neglected buildings; financing of repairs, improvements and code compliance in inexpensive rentals; and supporting and simplifying housing code compliance (Stegman, 1999).

Obstacles to affordable housing development. Property prices are the most fundamental obstacle to affordable housing development, especially in rising markets. As these costs are dictated by local markets and only marginally affected by local or federal policies, most affordability tools are aimed instead at reducing the overall costs of development. The slowing of the real estate market in most parts of the country is providing temporary relief from the growth of these costs, but prices rose at such rates during the bubble years that they still outpace historical norms (versus income) in many places.

Community opposition towards affordable (especially subsidized) housing can present

another significant obstacle. Often this opposition is based on a belief that housing assistance reduces nearby market values. Though subsidized housing, especially in high concentrations, is associated with distressed neighborhoods, there is little evidence that the fact of the subsidy in itself is what caused the decline (Briggs, Darden, & Aidala, 1999; Ellen, 2007; Galster, 2004; Schill et al., 2002). Regardless, this belief remains a central impediment to the creation of affordable housing in many places.

The patchwork of financing sources and cost supports for affordable housing is another impediment, one that has notably increased the complexity of development as federal policy has tended to favor local and market-based solutions. McCarty et al. (2008) put this growing complexity in historical perspective:

When the federal government first began to subsidize the production of affordable housing, [the funds appropriated] were sufficient to construct or rehabilitate the affordable units without the need for funds from the private financial markets. Over the years, however, federal programs that provide grants for the construction of multifamily housing for low-income households have become a smaller portion of the government's housing portfolio. At the same time, the grants themselves have become a smaller portion of the total amount needed to support the development of affordable housing. As a result, it has become necessary for developers to turn to multiple sources of [financing]. In addition, it is often necessary for building owners to seek rent subsidies through programs like Section 8, HOME, and Shelter Plus Care to make renting to [low-income] households feasible. The interactions among these various financing streams can be complex, and putting together a development plan may require the expertise of housing finance professionals. (p. 29)

The intricate weaving of multiple funding streams is also a hallmark of TOD, which must additionally negotiate regulatory and permitting structures ill-suited to projects that combine a variety of uses and non-standard infrastructure demands. The peculiarities of TOD will be explored in the next section.

Transit-Oriented Development

Several observers have defined transit-oriented development with varying levels of

quantitative or statutory rigor. Though they vary on specifics, the term is generally used to refer to relatively dense, walkable, multi-use districts that are both well served by and supportive of transit¹⁵ (as opposed to merely being adjacent to a transit station but not meaningfully related to it) (Cervero, 2004; CTOD, 2008b; Dittmar & Ohland, 2004). History shows that this is hardly a new pattern—dense, heterogeneous, pedestrian friendly environments were the norm in urban places long before the advent of modern mass transit, and continued to typify much of the development that sprung up around (or attracted) urban mass transit once it became widespread (Cervero, 2004; Dittmar, Belzer, & Auter, 2004; Hayden, 2003; Jackson, 1985). What distinguishes more recent versions of the pattern, according to Dittmar et al. (2004), is that decisionmakers now face “the challenge of adapting it to the auto-oriented metropolis” (p. 5). As a practical matter, this means squeezing a necessary degree of automobile circulation and storage into a dense area with a variety of land uses, while preserving the safety and convenience of the mass pedestrian traffic. Since this apparently chaotic mix of uses is counter to much of what planners, architects, and transportation engineers have been working towards for some 50 years, it can prove challenging to get practitioners to even agree on a common definition of terms.

In a survey of several hundred public- and private-sector TOD stakeholders in large metropolitan areas, Cervero (2004) found that transit agencies were likely to formally adopt fairly broad design- and ridership-centered definitions of TOD, summarized in the study as “a pattern of dense, diverse, pedestrian-friendly land uses near transit nodes that, under the right conditions, translates into higher patronage” (p. 7); local governments, on the other hand, “tend to cast TOD in more specific terms, such as minimum floor-area ratios (FARs) and distances to rail stops, that are often tied to development regulations and zoning codes” (p. 7). Most of these definitions are subsumed by the TOD typology described by CTOD (2008a), which classifies

¹⁵ As noted earlier, the term *transit* in this context will refer primarily to fixed-guideway modes.

transit-oriented places based on mix and intensity of land uses, level of transit connectivity, and role within a metropolitan region. This typology is detailed in Appendix B.

Many definitions of TOD begin from the idea of a “station area” or a “transit zone,” a generally circular area with a radius, commonly 1/4 to 1/2 mile, that can be considered the maximum area within a reasonable walk (5 to 15 minutes) of a transit facility.¹⁶ The station area is where the land-use differences, regulatory overlays, and other features of a transit-oriented built environment are concentrated, since it has the potential for a level of pedestrian traffic and accommodation that areas further from transit would be harder pressed to support. It is unclear how much this radius reflects empirical findings on actual pedestrian preference, as opposed to received wisdom in the transit and development communities about how far people are willing to walk; if they cite sources at all, many guidelines refer to the same few studies from the 1980s or earlier about typical pedestrian speeds and environmental preferences (Canepa, 2007; CTOD 2007, 2008a; Daisa, 2004; Levy, 2009).

The general characteristics of the transit-oriented place, as compared to other areas in city, are greater density (both commercial and residential), often with significantly less parking than would normally be required for a given floor area or number of dwelling units; improved walkability and a fundamental orientation to pedestrian traffic, including good street-grid connectivity; a mix of land uses, both in terms of the overall mix and their spatial positioning, leading to a variety of neighborhood destinations; proximity or connection to centers of employment; and, most centrally, proximity to quality transit (CTOD, 2008a).

The maturity of the transit service influences the nature of the development. An older city

¹⁶ Actual walking distances within this radius might be longer because of impediments to pedestrian access, like poor street connectivity, large arterials or highways, bodies of water, or other physical barriers. An important qualifier is that the definition of “reasonable” is based on a sense of modern American preferences, in which the pedestrian distances are much shorter than they might be in other places or eras.

with mature transit will tend to have fewer empty parcels available for development in the central business district, and land values may be higher in these areas. Beyond downtown, however, disinvested inner-city neighborhoods may have large tracts of vacant or underdeveloped land in transit areas, often already zoned appropriately for TOD. An older suburb may have the remnants of a streetcar-oriented downtown, but with an overlay of arterial streets and parking lots creating an environment that does a better job accommodating cars than transit-dependent pedestrians. A newer city or suburb, or an older area without a legacy of public transit, may lack land-use provisions for the density and mix of uses necessary for successful TOD. In addition, transit lines that are imminent rather than existing may create speculative market distortions that do not exist where rail alignments, station locations, and ridership levels and patterns are established. All of these factors, which will be further explored in the case study section, can affect the lending environment faced by private developers, which in turn dictates what level of development is actually feasible (CTOD 2007, 2008b).

The TOD policy environment: land-use and transportation policies. Land-use regulations are the most important local policies determining the potential for development of transit-oriented places. In most parts of the U.S., especially in cities or suburban areas that saw most of their growth since the Interstate era, the typical densities, mix of uses, and parking requirements would be inappropriate for successful TOD and are insufficient to support reliable transit. Also, development and subdivision regulations and roadbuilding standards mean that typical development in such places would lack important elements of a walkable environment, such as small block sizes, well-connected street grids (i.e. many routes to a given destination rather than a strict hierarchy of feeders and arterials with increasingly long distances between intersections), shallow setbacks, and even the mere presence of sidewalks. The walkable, mixed-

use downtowns typified by intact streetcar suburbs, or small-lot residential districts with a variety of housing types (including accessory units), which are in many cases the models for new TOD, would be impossible to build as-of-right under today's normal land use policies (Cervero, 2004).

Communities that have encouraged TOD have used a variety of means for achieving the necessary slack from prevailing land use regulations in the areas slated for the projects: developer agreements, the planned development process, zoning overlay districts, expedited and reduced cost project review, and density bonuses or parking reductions in exchange for various developer concessions, are among the tools used by the case study regions described below. A few cities have created TOD-specific policies, but many others approach the developments on a project-by-project basis that tends to favor larger developments with more resources behind them.

A more permanent approach, obviously, would be zoning code reform that permits these elements as of right, especially increased density and diversity of uses, without the need for overlays or negotiation of project-specific agreements. Such reforms might have spillover effects on a city as a whole, such as increased predictability for developers of TOD, lowering development costs and encouraging increased flexibility. Ewing et al. (2008) cite numerous studies showing significant reductions in VMT and fuel consumption related to better pedestrian connectivity, higher residential density, and overall intensity of activity in a given area. CNT (2010a), examining the relationship between residential density and VMT and household car ownership, found that marginal increases in residential density (e.g. increasing from 8–10 to 15–30 DU/acre, achievable through modest zoning code amendments) resulted in dramatic reductions in VMT and car ownership, implying substantial savings on transportation costs.

Obstacles to TOD. Surveying the literature on TOD, as well as surveys and interviews of

stakeholders, Cervero (2004) describes three main classes of obstacles to successful development:

fiscal (factors that detract from the financial feasibility of TOD projects, such as questionable market viability and lack of conventional financing); *organizational* (structural impediments lodged in the institutional fabric of transit agencies and other governmental entities responsible for projects); and *political* (land-use policies and NIMBY forces that impede multifamily housing and infill development more generally). (p. 99, emphasis in original)

As discussed earlier, the complexity of assembling multiple funding sources, and further of coordinating the activities of multiple entities with divergent interests, is a major barrier, one that straddles both the fiscal and organizational categories.

In the fiscal class, many conventional lenders have trouble dealing with projects that include both commercial and residential uses, especially if the residential component includes affordable units. For instance, the many programs that exist for financing affordable housing in difficult to develop areas do not generally extend to the commercial side of mixed-use projects; but the commercial side is often critical to making TOD projects work overall, so difficulty in lining up that portion of financing can imperil entire projects. Developments that use transit-agency land can run into trouble with the common lending requirement of pledging a project's land as collateral; development rights for agency property are unlikely to include the ability to encumber publicly owned land in this way (Cervero, 2004).

As a more basic matter, the high-density, multi-story structures in much TOD, especially if it includes garage parking, is far more expensive to build than single-story structures surrounded by surface parking. The comparatively higher land costs in developed areas as compared to greenfields can make TOD untenable in places where the market may not immediately embrace it. This is why seemingly marginal concessions like reduced parking requirements can have an outsize impact on a project's success or failure (Cervero, 2004).

Further complicating this picture is the tendency for property prices to rise with proximity to fixed-guideway stations, reflecting the market's desire for these investments even as it makes developing near them more difficult. This proximity effect is not seen with non-fixed modes, which is one reason for most successful TOD taking place in station areas rather than along even very well served bus routes. The real-estate market prefers fixed guideways even if the short-term fiscal preference is for less capital-intensive modes, likely due to the greater assurance of long-term value implied by a permanent alignment. This preference for rail is cemented by the bias of federal capital funding (New Starts monies especially) and of discretionary transit users with a choice of whether to ride or drive (Dittmar & Ohland, 2004; Gruen Gruen, 1997). This is a central paradox of successful TOD: it is more difficult to create good development in station areas because the market believes in the value of such development.

Political barriers to TOD can resemble those to affordable housing, with neighbors and community groups resisting higher-density, multi-family development because of a perceived threat to property values. These come along with the concerns about increased traffic and parking pressure, school crowding, and strained infrastructure and public services that seem to accompany any proposed development. In practice, these barriers make the incorporation of affordable units less appealing, tending to compound the for-profit developer preference for the higher return from market-rate or luxury units (Cervero, 2004). As the case studies will show, in the absence of statutes or agreements mandating the creation of affordable units, TOD will generally cater toward the upper end of the residential market.

Related design and development concepts. Two concepts often discussed in the same context as TOD, and perhaps dominant in the minds of many practitioners until a more unified, design-dependent idea of TOD emerged in the late 1990s, are “joint development” and “smart

growth.” Both concepts overlap to some degree with the goals or mechanisms of TOD, and are sure to appear in any review of the literature on TOD, especially in somewhat older works. The New Urbanism movement is also commonly associated with both TOD and smart growth.

“Joint development” refers to public-private cooperative development efforts on land (or in air rights) owned or controlled by a transit agency, for both transit and non-transit purposes. A central purpose of joint development is the capture, for the public benefit, of the additional private value that a transit station creates, offsetting at least some of the public burden of the investment while also benefiting the private-sector development partners (Cervero, 2004; Dittmar et al., 2004). Cervero (2004) treats joint development as a subset of TOD “that is project-specific and takes place either on or adjacent to transit-agency land” (p. 8). In such arrangements the transit agency generally retains ownership of the underlying property, with the public benefit flowing to the transit agencies in various ways, from construction or operations cost-sharing to station connection fees to, most commonly, ground- or air-rights leases. As TOD has gathered steam, joint development has seemed to wane in popularity, as it can limit the menu of development options because of financial requirements imposed on the use or sale of transit agencies or other public landholders.¹⁷ In addition, over several decades of contracting transit budgets, many transit agencies have exited the real estate business and sold off land holdings beyond what is necessary for core functions (Cervero, 2004; Dittmar et al., 2004).

“Smart growth” is a theoretical framework that emerged in the 1980s and 1990s in response to a growing recognition of the problems of urban sprawl. Whereas TOD is built around

¹⁷ For instance, some FTA-administered funds for transit agency real estate acquisitions are restricted to only those purchases directly related to service improvements. Alternatively, a transit agency that is required under state statutes to maximize revenues from rents or sales, or to show that a particular development of transit property represent the “highest and best use” of land, cannot necessarily act in the best interests of either its riders or the neighborhood. Boston’s MBTA is constrained in this way, which tied its hands in the Fairmount Line redevelopment effort described in the case studies (CTOD, 2007; Dittmar et al., 2004).

a set of policies and regulations oriented to projects at roughly a station-area, district, or corridor scale, smart growth refers to a set of policy goals and mechanisms that operate at a wider scale, such as the county, metropolitan area, or even state, and very broadly speaking are aimed at slowing or reversing the trend of uncoordinated, sprawling urban growth. Reviewing literature and legislation on the subject, Voith and Crawford (2004) find five elements common to most smart growth policies: 1) limiting outward growth; 2) reducing dependency on automobiles; 3) promoting compact, higher-density development; 4) preserving open space; 5) redeveloping inner-city areas and infill sites. (p. 86) In addition they find several elements common to many smart growth policies, but not as universal as the five named above: these include placing the cost of infrastructure growth on the developers or new residents who create the need for it; promoting a mix of uses; speeding approvals or limiting regulatory hurdles for preferred forms of development; and resource sharing among local governments in a region. Increasing the supply of affordable housing is another of these occasional, non-universal elements (Voith & Crawford, 2004). Since TOD is essentially a subset of several of these elements, it can be seen as one of the localized strategies that a region or state might use in achieving broader smart growth aims.

Smart growth is also associated with the New Urbanism movement, with which it shares many of the same goals and practices (and practitioners), but the two movements are distinct in that New Urbanism has a governing body and founding charter—the Congress for the New Urbanism and Charter of the New Urbanism, respectively—while smart growth lacks such a formal orthodoxy (CNU, 2010b).

Environmental Policy and Other Relevant Tools

The third agency leg in the Sustainable Communities Partnership is the EPA. While the overall goals of promoting compact development, reducing automobile dependence, and

investing in existing communities have clear environmental implications, the EPA's primary role in the actual implementation of mixed-income TOD thus far has been to aid in the remediation of contaminated "brownfield" sites to enable them to support redevelopment. EPA technical and financial assistance was central to the revitalization of parts of downtown Portland through the redevelopment surrounding the new streetcar. Three of the other case study areas (Boston, South Suburban Chicago, and Denver) are depending on EPA guidance and grants for key parts of their redevelopment strategies (CDOT, 2007; EPA, 2010). As the LIHTC market has slowed and traditional federal housing subsidies have dwindled, some affordable housing developers have turned to environment-related programs, including DOE energy efficiency retrofit and weatherization monies, to fill holes in capital funding (SSMMA, 2010; Quigley, 2010).

Case Studies

Appendix C contains a table summarizing key demographic and community development indicators in the six case-study areas.

Cases 1 and 2: Mixed-income TOD helps revitalize older communities built around transit.

Boston and Chicago, with their extensive legacy rail systems and neighborhoods and suburbs built out along rail lines, are prime settings to demonstrate the potential of TOD to revitalize older communities that suffered disinvestment as people and jobs moved ever outward in the metro area. In both cases, determined local leadership has helped to produce strong community-based plans for capitalizing on existing rail assets and maximizing the impact of new transit investments. Plans for both areas were built around significant attention to housing affordability, both through preservation of existing units and inclusion of affordable units in new development. In both places, significant federal commitments have been important to bringing the plans closer to realization.

1. Boston's Fairmount Line. The Massachusetts Bay Transportation Authority (MBTA) Fairmount Line provides commuter rail service from downtown Boston's South Station southwest through the neighborhoods of Dorchester, Mattapan, and Hyde Park. These diverse working-class neighborhoods were once independent municipalities that were annexed to an expanding Boston in the 19th and 20th centuries, and the rail line connecting them to downtown has been in operation since the 1850s. However, even though its 9-mile route passes through dense urban neighborhoods entirely within the city of Boston, by the 1980s the Fairmount Line served only five stations (including the downtown terminus), with peak frequencies of a half hour and no night or weekend service; at the three central stations of the line, passengers must actually request stops or flag down the passing train during off-peak times. This poor service was reflected in the line's ridership. Despite a highly transit-dependent population in the communities on the corridor (with a 33% transit share for the journey to work), ridership on the line—averaging 2,790 weekday boardings—is the lowest of all of MBTA's 11 commuter rail lines. Residents from the corridor were far more likely to ride a combination of buses and other train lines to reach downtown jobs, with one study finding typical commute lengths of 1 hour 15 minutes among neighborhood transit users (CTOD, 2007, 2008b; Goody Clancy, 2005; KKO, 2002).

Land-use patterns in the neighborhoods along the corridor were typified by low- to medium-density residential (9–25 DU/acre), local-serving retail, and light industrial uses, with about one-third of the area in city-owned parkland or other civic uses; these were interspersed with many underutilized or vacant parcels, most of which were small and dispersed, along with a number of brownfield sites requiring remediation before they could be redeveloped. Housing in the neighborhood was majority rental, with the percentage of owner-occupied units rising from

about 25% around the innermost stations to 60% at the southern end. While typical households in the corridor were more diverse and lower income than in the region as a whole, in general the district was a solid, working class family area, which had suffered years of disinvestment but not wholesale decline (CTOD, 2007, 2008b; Goody Clancy, 2005; KKO, 2002).

In 1999, a coalition of CDCs and community groups from neighborhoods along the corridor (known as the Fairmount/Indigo Line CDC Collaborative) began pushing for improvements to the line, including increased service frequency, up to six new stations, upgrades to existing stations, and equipment changes to make the commuter rail line more rapid transit-like. The envisioned future service was dubbed the “Indigo Line” by its proponents (Goody Clancy, 2005). The transit investments provide the backbone for broader redevelopment strategy that would improve transit access for existing communities along the line while concentrating new housing and commercial development in TOD districts along the corridor. At the project’s outset (long before the current economic crisis), residential developers planned up to 1,400 new affordable and a roughly equal number of market-rate units, to be developed on infill sites and mixed-use nodes throughout the corridor. Preservation of existing housing was also central to the plans, as the corridor included more than 2,200 units under Section 8 contracts set to expire by 2009 (CTOD 2007, 2008; FTA 2010).

As the project gathered public and political support, public agencies took a growing role. An MBTA-commissioned feasibility study in 2002 found that significant ridership improvements (up to a fourfold increase over baseline projections for 2025) could be expected from a combination of additional stations and greater service frequency; the MBTA added the Fairmount Line improvements to its list of priority projects later that year (Goody Clancy, 2005; KKO, 2002). Though the Indigo Line Collaborative had proposed as many six new stations to

create a nearly continuous station-area corridor, the version adopted for MBTA capital planning in 2004 included four of those stations. From that point, both the transit and the redevelopment aspects of the plan began to attract serious commitments of local, state, and federal resources.

Statutory and financial toolbox: In the Boston region, the level of coordination and cooperation is unusually high among the various public agencies concerned with transit, TOD and affordable housing, as well as between agencies and policy. Massachusetts has a strong framework for the encouragement of affordable housing and compact development—most notably in chapters 40B, 40R, and 40S of the Massachusetts General Laws—as well as a state office for coordination of TOD planning¹⁸ (CTOD, 2007). Chapter 40B allows developers to bypass some local zoning in communities with fewer than 10% of units affordable, and also allows for expedited permitting and appeals¹⁹ (MGL 40B §20–23, 2010). Two newer laws provide incentives for compact development in “Smart Growth” districts. Chapter 40R, passed in 2004, provides for direct payments to municipalities that produce housing in dense mixed-use overlay districts around transit stations or existing commercial or town centers. The payments are based on the number of housing units (both potential and constructed, with a minimum of 20% affordable units) in the overlay districts.²⁰ A related law, Chapter 40S, reimburses communities for the net cost of educating children moving into new housing produced under 40R (CTOD, 2007; MGL 40R, 40S, 2010).

¹⁸ The state TOD coordinator and the office supporting it, created during Mitt Romney’s governorship, was in place when the project was in its early stages. However, under Deval Patrick’s administration the position and office were eliminated and merged into a Development Cabinet without a specific TOD focus. Governor Patrick did pledge ongoing support for the Fairmount/Indigo project (CTOD, 2008).

¹⁹ Target households are those making less than 80% of AMI. In qualifying projects, at least 25% of the units must be bound by long-term deed restrictions to preserve affordability. Some 30,000 units have been produced under the law since 1969, and it is responsible for the vast majority of new affordable units produced (CTOD, 2007; MGL 40B). The law survived a ballot challenge in the November 2010 general election (Boston Herald, 2010).

²⁰ Municipalities receive lump payments of \$10,000 to \$600,000 upon creation of the districts and bonus payments of \$3,000 per unit upon issuance of building permits. Twenty percent of a district’s housing must be affordable at 80% of AMI, with a 30-year deed restriction providing for ongoing affordability (MGL 40R, 2010).

Massachusetts provides a variety of financing tools specifically supporting affordable housing and TOD projects, several of which have been employed in the corridor. These include the TOD Infrastructure and Housing Support Program (a competitive bond financing program for housing development and pedestrian and other improvements in station areas, with bonus scoring for developments in 40R areas), the Commercial Area Transit Node Housing Program (which supports first-time homebuyers in station-area developments with 51% or greater affordable shares), the Massachusetts Affordable Housing Trust Fund (financing the production or preservation of units affordable to households up to 110% of AMI, and not necessarily transit-linked), and the Priority Development Fund (which provides planning and capital grants for mixed-income and affordable housing development in station areas). Several agencies provide technical assistance for communities seeking to access these various funds and incentives (CTOD, 2007, 2008b).

Technical and financial assistance is available at crucial points in the process for the acquisition and development of transit properties. MBTA is statutorily limited in its degree of collaboration with developers or nonprofits, but recognizing the ridership gains and operational efficiencies from TOD, it established memorandums of understanding with state and local agencies to help ensure that public offerings of key TOD sites don't catch communities unprepared. In several cases when MBTA-owned land was part of Fairmount corridor TOD plans, the Boston Redevelopment Authority (BRA, the city planning and economic development agency) assisted CDCs with no-interest pre-development loans for quick acquisition of key parcels (CTOD, 2007). By 2010, MBTA and MassDOT commitments to the project, including upgrades to two existing stations and construction of four new ones, totaled some \$139 million. The city investment, which cuts across a variety of arenas, is up to about \$126 million (Dubois,

2010; FTA, 2010).

Federal role: Though the planning process was initiated by local CDCs and community groups, federal resources—both dollars and expertise—grew in importance as the plans moved toward implementation. The integrated development process was an early version of the sort of collaborative, cross-agency work now envisioned by the Sustainable Communities Partnership. The corridor became one of five pilot sites for the partnership’s brownfields program in April 2010, bringing direct EPA technical assistance for assessment and cleanup of brownfield sites in the corridor, as well as coordination with the other agencies on the more complex redevelopment planning. The brownfields effort includes plans for the creation of a 6-mile greenway with a variety of open space amenities (Dubois, 2010; EPA, 2010). Federal commitments as of mid-2010 were as follows: EPA: \$720,000 for brownfield cleanup and other environmental remediation; FTA: \$37 million for station and bridge reconstruction (not included in the MBTA/MassDOT figure); HUD: \$57 million for creation and preservation of affordable housing and economic development (Dubois, 2010; FTA, 2010).

Outcomes, prospects, lessons: The Fairmount/Indigo Line project is closer to realization than any other integrated TOD/affordable housing plan of this scale in the country. As of this writing, the transit infrastructure is well on its way to completion, with reconstruction complete for two existing stations and three bridge crossings. The four new stations are designed and fully funded, with two under construction and the remaining two scheduled to begin in 2011²¹ (Dubois, 2010; FTA, 2010). According to J. Tighe, an executive at the Fairmount/Indigo Line CDC Cooperative (personal communication, November 24, 2010), to date the CDC collaborative had completed 98 new affordable units in TOD developments and bought 55 foreclosed units for

²¹ Reconstruction: Uphams Corner and Morton St. stations, Mass. Ave., Quincy St., and Columbia Rd. bridges. New construction: Four Corners and Talbot Ave. stations (underway), Newmarket and Cummins Hwy./Blue Hill (scheduled 2011) (Dubois, 2010).

renovation and resale; another 11 properties totaling 381 units were in the pipeline, with site control (written agreements or options to acquire) secured for an additional 601. Economic development efforts are projected to create 200 local jobs in about 25 businesses, with 210,000 square feet of commercial development in the pipeline, including a job training and placement center (Dubois, 2010; J. Tighe, personal communication, 24 November 2010).

Several observers have credited the early leadership and ongoing involvement of the CDCs (as opposed to transit agencies or local government) as central to the project's success, especially the substantial achievements in preserving and creating affordable units in the corridor even while the transit improvements went ahead and the national and regional housing markets were in turmoil. CTOD (2007) sees as a clear lesson from the corridor the idea that "local government may not be the sole or even primary resource for achieving mixed-income communities. Federal agencies . . . may want to consider ways of more directly incorporating this type of local CDC into planning" (p. 51). It warns, however, that by operating outside of statutorily empowered planning channels such as a master plan, a community-conceived development framework is more vulnerable to being undermined by other players in the market.

Finally, though the significant funding commitments are a sign of the success of the project's planners and backers, they could also be a liability. The public cost, so far, totals around \$374 million—about \$13,000 per household in the study area or \$210 per household in the region as a whole. The benefits, such as of household time and cost savings, increased tax base, reduced regional congestion and pollution, and improved quality of life for community residents, are more difficult to quantify, and some may take years to manifest themselves if they do at all. In an economic and political climate like the one we currently face, the costs themselves are a fairly blunt argument in the hands of opponents of such efforts (the New Jersey

ARC tunnel and Milwaukee-Madison high-speed rail projects are examples), so developing a clear way to express the benefits of such sizeable investments would bolster the position of advocates for affordable TOD. This clear expression of benefits, local and national, should be a priority for the Partnership, should it survive the next Congress in any recognizable form.

2. *Chicago's South Suburban Green TIME Zone.* The suburban region south and southwest of the City of Chicago known as “the Southland” stretches from the Indiana border west to the satellite city of Joliet. Located in southern Cook County, the area has substantial transportation infrastructure, with four existing and one planned commuter rail lines (Metra Electric District, Rock Island District, SouthWest and South Shore Services, and planned SouthEast Service), five freight rail lines and two major intermodal terminals, and four expressways (Interstates 57, 80, 94, and 294) (CNT, 2010b). Service on the Rock Island and Electric Districts dates to the 1850s, and several of the communities on these lines are among the region's earliest suburbs (SSMMA, 2010).

The roughly 70 municipalities composing the area represent a range of populations, circumstances, and urban forms, from severely distressed to moderately disinvested to affluent, from compact walkable downtowns to single-use sprawl to decaying ex-industrial brownfields. Large stretches also remain undeveloped. With many local economies built around manufacturing and freight handling, the area as a whole has suffered in the shift to a post-industrial economy, losing thousands of jobs and residents to other parts of the region and the country over the past 30 years. In comparison to the Chicago region as a whole, the Southland has lower incomes and higher unemployment, a greater proportion of minorities, and persistent residential and business disinvestment, leaving many vacant or underutilized parcels throughout the area. As an area with a legacy of heavy industry, it also has a large proportion of

contaminated sites that would require environmental remediation before they could be redeveloped for housing or business. On the other hand, the area's geographic advantages, outstanding freight and transportation resources, many vacant parcels, and regionally lower land and housing costs leave it uniquely positioned for redevelopment as a freight, logistics, and light manufacturing hub with a large supply of affordable housing well served by transit (CNT, 2010b).

The South Suburban Mayors and Managers Association (SSMMA), an intergovernmental group representing more than 40 Southland municipalities, is the main sub-regional voice for the area's communities. Along with its community- and economic-development affiliates (the Southland Housing and Community Development Collaborative and the Chicago Southland Economic Development Corporation, respectively), SSMMA has been pursuing a sub-regional sustainable redevelopment strategy built around the area's rail, cargo, and manufacturing assets, dubbed the Green TIME Zone strategy. (*TIME* is an acronym for *transit, intermodal, green manufacturing, and environment.*) The three-pronged strategy is based on TOD for housing and community development in 42 Metra station areas; cargo-oriented development (COD) capitalizing on the proximity of many industrial, freight, and intermodal uses; and centering manufacturing incubation efforts on "green" renewable energy and low-emission products (CNT, 2010b). (Since the latter two areas are beyond the scope of this paper, only the TOD/housing and community development aspects will be examined.)

Statutory and financial toolbox: Illinois has begun to build a strong statutory framework for affordable housing and location-efficient development over the past decade, although key aspects remain only advisory in nature. The Affordable Housing Planning and Appeal Act is similar to Massachusetts' Chapter 40B, requiring municipalities with under 10% of units

affordable to develop and implement plans to create an adequate level of affordability. It also authorizes the creation of local housing trust funds for a variety of affordability-supportive purposes and creates an administrative appeals process for developers of projects with a greater than 20% affordable share whose proposals are denied due to what they see as unreasonable local restrictions (310 ILCS 67, 2003). Other laws require 12 months of notice and right of first refusal for tenants of expiring federally subsidized housing that is being sold or converted to market rate (310 ILCS 60, 2004); provide rent subsidy grants for landlords of rental housing affordable to households below 50% of AMI (ILPA 94-0118, 2005); and provide tax incentives to landlords of Section 8 housing (35 ILCS 200/18-173, 2003) (BPI, 2010).

To bolster linkages between housing and jobs and expand the supply of workforce housing, Illinois offers several incentives for employers who assist employees in acquiring affordable housing. One program matches up to \$5,000 of down payment and closing costs for lower income employees. Another, the Illinois Affordable Housing Tax Credit Program, provides transferable credits against state tax liability at a rate of 50 cents per dollar invested in qualifying employer-assisted housing programs²² (ILPA 93-0369, 2005; REACH Illinois, 2010). Both programs are parts of the Southland housing strategy.

Two more recent acts have the potential for broad creation of affordability, but are so far mainly advisory in nature. The Comprehensive Housing Planning Act requires the state to create an annual comprehensive affordable housing plan for a number of low-income and vulnerable populations, to be coordinated with state transportation, economic development, and human

²² The matching funds are available for assistance to employees earning less than 50% of AMI, with lower matching limits for employees making up to 80% of AMI. The tax credit program covers employees up to 120% of AMI. Both programs are administered by the Illinois Housing Development Authority through a consortium of local nonprofit partners called REACH Illinois. The match program requires employees to contribute at least \$1,000 in their own funds, participate in housing counseling, and meet employer tenure requirements (ILPA 93-0369, 2005; REACH Illinois, 2010).

services spending; however, the plan thus created lacks any teeth in implementation, and acts only to recommend state actions, funding flows, and capital priorities²³ (ILPA 94-0965, 2006). Similarly, the Housing + Transportation Affordability Index Act requires the consideration of CNT's H+T Affordability Index in various spending, facility siting, and capital prioritization decisions in the state, but generally only in an advisory fashion (ILPA 96-1255, 2010).

The Southland collaborators propose the creation of two important financing and development tools: the Southland Sustainable Development Fund for parcel assembly and predevelopment improvement, and the Southland Housing Collaborative Land Bank, to buy and maintain properties that figure in affordable housing, TOD, and economic development plans during the long development process. The strategy also urges project communities to adopt uniform form-based zoning for TOD areas and expedited review for projects that fulfill goals of the plan, to give greater predictability to a multi-jurisdiction development strategy and attract investors and developers interested in larger or multiple station-area projects (CNT, 2010b). Though several of the communities in the project area already have TOD-friendly zoning codes and entitlement processes, the Green TIME Zone is still made up of a patchwork of local land-use policies that would frustrate larger development efforts that might cross municipal boundaries.

Federal role: SSMMA and its partners have secured federal assistance for various aspects of the strategy, including technical expertise, underwriting, and direct funding. Some \$9 million in Neighborhood Stabilization Program funds went to the Southland Housing Collaborative for banking and redevelopment of foreclosed properties. Residential energy

²³ The 2006 act codifies a 2003 executive order addressing the following populations: households earning below 50% of AMI (with an emphasis on those below 30% of AMI); low-income seniors, disabled, and chronically ill persons; the homeless and those at risk for homelessness; low- and moderate-income households unable to afford housing within a reasonable commute to work; and residents of existing affordable housing at risk of being lost or becoming otherwise unaffordable (ILPA 94-0965, 2006).

efficiency retrofits and code training are being underwritten by DOE Energy Efficiency and Conservation Block Grants.

In October 2010, SSMMA was awarded a \$2.35 million HUD Community Challenge Planning Grant for implementation of the Green TIME Zone; SSMMA has said it plans to use the grant to structure and capitalize the sustainable development fund and housing land bank. Also in 2010, SSMMA won an EPA Smart Growth Implementation Assistance grant, providing direct technical assistance centered on infrastructure financing (MPC, 2010).

Outcomes, prospects, lessons: The Southland project is still at an early stage, and many of the desired outcomes are still extremely tentative—for instance, Metra’s SouthEast Service, comprising nearly a quarter of the station areas in the plan, lacks capital funding and has yet to enter the environmental analysis and preliminary engineering phase of the New Start process, putting it at least five years away from the start of construction. With that proviso, the vision is notable for the high level of sub-regional interjurisdictional cooperation it requires, and its success so far in creating structures allowing that cooperation to take place and promoting a common vision. When so many of the relationships between municipalities, especially smaller ones, are characterized by competition (for residents, employers, and revenues) that often beggars all parties involved, the voluntary associations formed by the SSMMA and its related entities can be a model for communities working together for their mutual benefit and achieving outcomes they could not otherwise reach through pooled resources and efficiencies of scale. Already, it has provided access to state and federal resources at such a level, and for such well defined ends, that Southland municipalities would have been incapable of achieving individually, especially if they were undercutting one another’s efforts by a race for the bottom with tax breaks and revenue policy.

In the current political and fiscal environment, key parts of the strategy may be at risk. The Metra SouthEast Service depends on ongoing New Starts funding from the next transportation reauthorization, which may not be authorized at the anticipated level. If that funding is delayed, redirected, or drastically cut, the eastern third of the TOD strategy collapses. The strategy also depends on continuity in federal and state policy for its economic development and job creation goals. Without a continued push for action on climate change, energy efficiency, and emissions reduction, green manufacturing becomes less of a jobs engine than it would be under a strong carbon-limitation regime. Finally, the ongoing cooperation of Southland municipalities in the strategy is central to its overall success. If participation in the sustainable development fund and land bank fall off, the housing and TOD aspects of the plan become more difficult to contemplate.

Cases 3 and 4: New transit investments create value in places without a history of transit, but with mixed results on affordability in the absence of a supportive statutory structure.

The streetcar district in Portland, Oregon, and the Lynx Blue Line of the Charlotte, NC, light rail system are examples of new fixed-guideway lines driving development and increasing transit ridership in places without legacy transit systems or a tradition of non-auto travel. These areas demonstrate the viability of well-executed TOD, even in very auto-dependent regions. But despite their successes, both regions have struggled to meet affordable housing goals in the project corridors.

3. Portland (OR) Downtown Streetcar District. Much of the Portland region's early growth was along streetcar lines and interurban railways serving much of the Willamette Valley, but these services followed the trajectory of many other public transit systems, with fixed guideway modes declining after the 1920s and rail service fully abandoned by 1958 (Hilton & Due, 2000). Transit in the region was solely bus-based until the city began building light rail in

the 1980s and a modern streetcar network—the first new U.S. system of the postwar era—in the 1990s. The streetcar was part of Portland’s comprehensive planning and development strategy, which created a variety of conditions to favor infill redevelopment and encourage transit ridership. The first segment began operating in 2001, with sections outside the downtown core aligned specifically to connect an abandoned railyard and two underutilized brownfield industrial areas to the central business district. The system has been extremely successful both as a development engine and as a way to divert local trips from cars to foot and transit (CTOD, 2007; Portland Office of Transportation, 2008).

Operating on a 4-mile loop from northwest of the central business district to the Willamette waterfront south of downtown, the streetcar operates as an urban circulator, speeding up local trips rather than bringing riders downtown from outlying areas. With lower capacities, shorter distances (2 blocks between stops) and lower headways (13 minutes at peak) than the regionally oriented light rail service, it is designed for expanding pedestrians’ range and reducing car trips into and around the service area. Ridership has grown steadily since the system opened, with weekday ridership averaging 11,700 per day in winter 2009–10, and around half of the district’s work journeys on foot, bike, or transit (vs. about 10% for those modes in the region as a whole) (CTOD, 2007; POT, 2008; Portland Streetcar, 2010).

The streetcar zone, especially the area north of downtown (the River District), is a model for the redevelopment potential of fixed-guideway investments and carefully planned TOD. Since the alignment was announced in 1997—accompanied by increased densities and FARs and reduced parking requirements—more than 10,000 residential units and 5.5 million sq.ft. of nonresidential uses (3.9 million sq.ft. newly constructed) have been developed within three blocks of the streetcar; developments within one block of the streetcar have been built to an

average of 90% of their zoned potential, a figure that falls to 43% at locations three or more blocks away (Jordan & Hovee, 2005; POT, 2008). However, Portland's experience also shows the importance of a strong statutory framework for the production of affordable housing: though housing production has greatly outpaced expectations, market-rate and luxury units made up the majority of growth, while development of affordable units has lagged well behind targets (PDC, 2007).

Statutory and financial toolbox: Of all the case study areas, Portland has perhaps the strongest land-use planning system and statutory framework for support of compact urban development, transit, and TOD. Much of this framework flows from Oregon's 1973 comprehensive land-use planning law (SB100, 1973), which set statewide goals in 14 policy areas—later expanded to 19—from open space and coastal conservation to urban transportation and infill redevelopment. Most significantly for Oregon's cities, the law required the establishment of comprehensive planning bodies for every urbanized region in the state, each of which was required to set an urban growth boundary (UGB) sufficient for 20 years' growth, a buffer limiting urban expansion into forest and farmland beyond which infrastructure and services would not be extended. The UGBs are reviewed every five years and can be expanded under a variety of circumstances, and in general have served their intended purpose of rationalizing urban expansion and limiting sprawling development (MRG, 2010a; Oates, 2010). The successful implementation of fixed guideway transit over the past 30 years, and the land use supporting it, has been in large part due to the power the comprehensive planning law gave to Portland's regional government, known as Metro, to pursue transit centered compact redevelopment from a variety of directions.

Local coordination of development for the streetcar district mostly fell to the Portland

Development Commission (PDC), which set housing and development goals, structured public financing, and negotiated developer agreements and public-private cooperative entities. To pay for the streetcar and infrastructure improvements to support new development in the corridor, the PDC and the city used bonds backed by parking revenue, a local improvement district (LID) along the streetcar alignment (in which property owners who stand to benefit from public improvements agree to assessments that finance the improvements), tax-increment financing, and a variety of other sources (CTOD, 2007; Jordan & Hovee, 2005).

PDC also sets targets for the mix of housing types and levels of affordability. Though Oregon has one of the most progressive statutory frameworks in the nation for regional land-use planning, state law prohibits mandatory set-asides in market rate developments; instead, the state addresses affordability somewhat obliquely by requiring a mix of housing types that tends to create more multifamily units than would tend to be created normally. Consequently, PDC's main tool for production of affordable units or other community benefits is through developer agreements, generally in exchange for concessions on other development controls. Since these agreements are only used for large-scale developments or projects that require rezoning or are otherwise not developed as of right, this tool is fairly limited in its efficacy in producing affordable units (CTOD, 2007, 2008b; PDC, 2007; Porter, 2004). In the very hot housing market of most of the past decade, the market in Portland preferred market-rate and luxury units downtown, and for the most part that's what the market got. Master agreements attached to the two largest development complexes in the streetcar area (Hoyt Street Properties in the River/Pearl District, and North Macadam District in the South Waterfront) both required housing affordability mixes that reflected the overall mix of income levels in the region. So far, PDC finds Hoyt Street to be complying with its agreement, and early assessments of the South

Waterfront/North Macadam projects, which are nearly a decade behind the River District, found them likely to comply as well (PDC, 2007, 2009).

Federal role: Because of the strong coordinated planning regime in Portland, the city has been able to rely less on federal resources than have other case study areas. While much of the light rail system was built with federal funds, the \$103 million streetcar system was financed entirely through local or regional sources, giving the city much greater flexibility in its planning and implementation. Absent any significant push for affordable units in large numbers, the role of federal urban development assistance and funding has also been limited in the streetcar district (POT, 2008). However, EPA-aided brownfield remediation at a number of key development sites was essential to catalyzing the development success of the district as a whole (PDC, 2004).

Outcomes, prospects, lessons: For all its success in generating quality TOD and revitalizing moribund parts of town, the streetcar district has lagged in its ability to create housing that is accessible for all income levels. In fact, it has created the newest most expensive neighborhood in the city in the River District. This is not for a lack of planning (River District goals for 2020 call for 3,482 new affordable units out of about 6,600 total), but the task is made more difficult by a lack of local policy levers, notably an inclusionary zoning ordinance. In the Pearl and South Waterfront Districts, as a result, the creation of affordable units has been achieved largely through development agreements with the large developers in the area. In both cases, however, the provision of affordable units is governed more through contract law than through municipal or state statute, so the city's recourse is limited if the developers do not produce the agreed-upon number of units, or fail to preserve them in the long term (CTOD, 2007, 2008b; PDC; 2007). The main lesson to be taken from Portland is the necessity of statutory affordability mandates, especially in a hot housing market, since developers' preference will

generally be to build for the upper end of the market.

4. Lynx Blue Line (South Corridor), Charlotte, NC. Charlotte, NC, is the hub of a fast-growing, sprawling metropolitan region with little legacy of quality public transit. The city's population has increased fivefold since 1950, and the metropolitan statistical area covers six counties in North and South Carolina, with the lowest population and residential densities and highest levels of car ownership of all the case study regions; nearly two-thirds of housing in the region comprises low-density detached single-family development (Census, 2010).

Despite its decentralized, automobile dependent urban form, the City of Charlotte began pursuing a variety of rail transit projects centered on its commercial core in the 1990s. Building on the success of a short vintage trolley route in a historic district, planning began in 1998 for the Lynx Blue Line, the first of several light-rail lines ultimately envisioned for the area. Its \$462 million cost borne by a combination of New Starts and state monies and a dedicated regional sales tax, the 9.6-mile alignment (stretching from the CBD south to the Interstate 435 loop road) was chosen in 1999, construction begun in 2005, and service inaugurated in November 2007 (CATS, 2010; CTOD, 2007, 2008b). Ridership quickly dwarfed expectations, with the line providing more than double the original projected weekday rides by 2010 (21,600 vs. a projected 9,100) (APTA, 2010; CATS, 2010).

Through a coordinated planning effort that included high-density mixed-use transit overlay districts, the line stimulated development at a rate that outpaced even a hot regional construction market, attracting more than \$1.4 billion in private investment from 2000 to 2007 and increasing property values in the corridor by 52% (versus 40% in the city as a whole). Around 50 new developments were completed or underway in the corridor as of 2008. However, despite local policy calling for up to 20% of units in station areas to be affordable to low-income

households, only three of thirty projects with a residential component were known to include affordable units. Of the 1,175 total units actually built by 2008, just 100 were affordable to households at 60% of AMI, and a far smaller proportion of housing in the pipeline is projected to be affordable. However, a number of large undeveloped parcels remain in the southern station areas of the corridor, so affordable housing is not necessarily permanently precluded by the amount of development so far. One reason for the shortfall in affordable units is community opposition to subsidized housing, which has resulted in local policies that make it difficult for large projects to achieve the proportion of affordable units necessary to qualify for federal subsidies (CATS, 2010; CTOD, 2007, 2008b).

Statutory and financial toolbox: Tightly coordinated transit and land-use planning processes are partly responsible for the city's success in attracting appropriate development to the corridor. Since these functions, along with affordable housing planning and transit operations, are all contained within the city government, it has been somewhat easier for Charlotte to harmonize its policies to create successful TOD than in regions where these functions are carried out by separate entities. The city, county, and other regional municipalities adopted a framework for planning and implementation of transit supportive land use regulations in 1998, and have agreed on principles for station area planning, infrastructure financing, joint development, and zoning (CTOD, 2007, 2008b).

However, affordable housing development has been hampered by local policies that limit the concentration of subsidized units to no more than 10% of the units in a given neighborhood. Against strong community opposition (and without the sort of CDC support found in the Boston case study), the city raised this proportion to 20% in quarter-mile station-area radiuses, based on affordability for 60% AMI households. Yet neither of these proportions is sufficient to qualify

for the federal LIHTC program, eliminating the major source of financing for new mixed-income or affordable developments. To get around this hobbling policy, the city created an affordable housing trust for land acquisition to take some burden off affordable housing developers. In the region's growing housing market, and without strong community backing for the idea of housing equity, however, this has not proved sufficient stimulus for broad creation of affordable units in the corridor.

Federal role: Charlotte is a better example of policy coordination at the local level than at the federal. In fact, it is emblematic of the traditional stovepiping of federal agency outputs: \$193 million in New Starts funding made the South Corridor possible, but because lower income households will be largely priced out of the new neighborhoods it creates, the need for HUD funds and credits elsewhere in the city and region may be greater than it would have been otherwise.

Outcomes, prospects, lessons: As with Portland, Charlotte's experience suggests that it's likely that current models significantly underestimate the demand for transit and for housing near it in regions without a history of fixed-guideway modes. The area may find diminishing returns as the system expands and the latent demand for transit and TOD is reduced, but the early success in this sprawling Southeastern city shows that even regions not traditionally viewed as supportive of transit and compact development still have developers and consumers eager for more choice in land use, housing, and transportation. But without statutory, and more importantly, community support for affordable housing creation, low and moderate income households are more likely to be merely displaced by new transit lines than to benefit from them through healthier neighborhoods, shorter commutes, or improved job access.

Cases 5 and 6: Careful planning and supportive statutory structures lead to early successes.

Denver and the Twin Cities are still in the early stages of building modern rail transit systems, but both regions have been careful to coordinate land use, housing, and transportation planning before construction begins, and to set up statutory and financial structures that are more likely to keep and quality transit available to households at all income levels.

5. *Hiawatha Light Rail Line, Minneapolis/St. Paul, MN.* Minnesota's Twin Cities region is another latecomer to modern transit, with its former streetcar network abandoned by World War II and development since then largely in automobile-dependent forms. The Twin Cities area, which is planned and governed in several key respects by a regional body called the Metropolitan Council (Met Council), began pursuing new transit investments in the 1990s as part of a coordinated transportation, housing, and development strategy for the seven-county region. The 19-station Hiawatha light rail line—which runs 12 miles from downtown Minneapolis, through Minneapolis-St. Paul International airport and other regional destinations, to the Mall of America in the city of Bloomington—is the first stage in a network of new transit lines planned for the region. The \$715 million line began construction in 2001 and service in 2004 and, like the new systems in other case-study regions without a legacy of rail transit, quickly exceeded the preconstruction projections for ridership and associated development. A year into its operation, ridership had already surpassed projected 2025 levels, and even in the hot housing and commercial real estate market of the early 2000s, property values along the alignment increased by as much as 83% even before the line had opened in 2004 (vs. 61% for the whole region) (CTOD 2007, 2008b; Met Council, 2006a, 2008). A University of Minnesota study of residential property values in the middle (largely residential) section of the line found that by 2007, single family houses in the corridor commanded a premium over those elsewhere in their subsection of the city, whereas before service began on the line, they had brought about 16% less (Goetz et al.,

2010). Another study found similar results for commercial and industrial properties in the corridor, though prices for industrial properties fell off in the region as a whole starting in 2004 (Ko & Cao, 2010).

The line has stimulated a range of private development, with more than 110 projects completed or in the pipeline by 2008, of which 85 had housing components. The Twin Cities have been fairly successful in creating affordable units, with roughly a quarter of residential and mixed-use developments containing affordable units, and eight of those completely given over to affordable units. The majority of new development (95 projects, of which 15 contain affordable units) is concentrated in the stations closest to the downtown Minneapolis terminus, a series of station areas that forms a continuous, roughly 3-mile corridor. A center section passes through residential areas. Moving south on the line, stations become more widely spaced, development becomes more sparse with available parcels increasingly large and in need of remediation, with several station areas dominated by large, immovable commercial or civic uses (including a state historical park and the airport). However, with the downtown station areas approaching full build out (and land increasingly expensive due to the success of the Hiawatha Line), future housing development plans are necessarily focused on the more southerly station areas (CTOD, 2007, 2008b).

Only a few of the remaining station areas, currently with large underutilized areas, will likely support the increases in density necessary for large scale housing development; suburban Bloomington is less open to intensification of uses than is Minneapolis. Since many low-income households already live in mixed-income neighborhoods closest to downtown, affordable housing efforts in that part of the corridor are focused on preservation rather than creation of units (CTOD, 2007, 2008b; Goetz, et al., 2010).

Statutory and financial toolbox: The Metropolitan Council is responsible for many areas central to the creation of TOD and the promotion of affordable housing in those areas. The entities controlling regional land use, transit (and transportation more generally), housing and community development, and infrastructure planning and investment are all under the Met Council's control, as is significant taxation and debt issuance authority (Met Council, 2006b). Though Met Council does not directly control zoning in its constituent municipalities, its comprehensive planning authority means that local plans and zoning cannot contradict the regional goals the Council sets. The current comprehensive plan contains a focus on livable communities and planning goals similar to those of the Partnership for Sustainable Communities. A notable statutory impediment is the policy governing the sale of transit properties; Met Council is required to auction off such properties at or above their appraised value, and are prevented from pursuing joint development opportunities on them or guiding development on the lands adjacent to its properties (CTOD, 2007, 2008b).

Municipalities retain authority for zoning and affordable housing policy setting and implementation within their boundaries. Minneapolis provides TOD-supporting zoning through its pedestrian-oriented overlay district, which is not limited to station areas but includes additional provisions specific to the light rail corridors. It rezoned several of the non-downtown station areas to more appropriate uses and intensities to support TOD. The city also has well-established community groups and CDCs that can exert a strong influence over the shape of development in their locales. A partnership between the city and local nonprofits, called the Corridor Development Initiative, is focused on preservation and expansion of affordable units specifically in transit corridors, and works by easing and expediting the predevelopment process for all stakeholders, helping to reduce development costs while ensuring community benefits

(CTOD, 2007; CDI, 2010).

TOD and affordable housing development are supported by a variety of city, county, and Met Council funds and incentives, many of which address gaps in long acquisition, holding and development cycles for these projects, where traditional financing may fall apart. But this patchwork of funds may only contribute to the complexity of creating affordable TOD (CTOD, 2007).

Federal role: For the Hiawatha Line, federal assistance has so far been through typical agency and program channels. FTA contributed \$334 million to the development of the Hiawatha Line, just under half of its capital cost (CTOD, 2007).

Outcomes, prospects, lessons: The strong market response to the Hiawatha Line seems to have caught many local and regional stakeholders off guard. Because of a lack of public and nonprofit capacity, the most desirable parcels close to downtown were quickly put into private development, without the possibility of any concessions for affordable housing or other public benefit. In addition, the affordable housing tools available to public entities are built on the assumption of low land costs, which made acquisition and development in the overheated early-2000s market especially challenging, and even more so when the new rail line further accelerated the growth of property values in the corridor. A key lesson for other regions without a legacy of rail transit is to establish, long before alignments are chosen, land use and affordability policies that can work with a quickly rising market and don't depend on the lowest front-end costs. And like Portland and Charlotte, the Twin Cities experience points to the poor predictive power of ridership models and development projections for areas building modern fixed guideway transit for the first time.

6. *West Corridor Light Rail Transit, Denver, CO.* Denver is somewhat further along in

the implementation of modern regional transit than the other case study areas, with five light rail corridors opened since 1994, concentrating service on the downtown district, regional destinations such as sports venues and convention centers, and several large suburbs. A 2004 ballot measure created a sales tax funding stream for the “FasTracks” program, a further expansion of the system, with an additional five rail lines (one light rail and four electric commuter rail), extensions to existing lines, and a bus rapid transit corridor. The 119 miles of track and 57 stations are projected to more than double system capacity by 2020. The new light rail line, the West Corridor, had been in study since 1997 and had already passed through much of the New Starts planning process by the time the FasTracks revenue measure passed, so the line was able to begin construction in 2007, with service scheduled to begin in 2013 (Regional Transportation District [RTD], 2010).

The 12.1-mile, 13-station West Corridor route stretches from downtown Denver to the western suburbs of Lakewood and Golden, passing through some of Denver’s poorest and most disinvested neighborhoods on the way. Generally speaking, the lowest income households are in the station areas closest to downtown, with household incomes and homeownership rising, and household size falling, as the line proceeds west. Near the Federal/Decatur station (the first station west of the downtown terminus), two notoriously distressed public housing projects have discouraged investment in the area, while the three other stations within the city of Denver are located in areas dominated by lower-income households and single-family rental housing. Not surprisingly, much of the early development interest has taken place in these neighborhoods, as less expensive rental units revert to market rate owner-occupied housing or are torn down for higher density redevelopment (CTOD, 2007).

In 2009 the Denver Housing Authority issued a redevelopment plan for the La

Alma/Lincoln Park neighborhood's South Lincoln Homes, one of the large public housing projects near the Federal/Decatur station, demolishing 270 units while developing an 800–900-unit mixed-use, mixed-income TOD that includes a variety of housing types (including replacement units for all those being displaced). The project recently won brownfields assistance through an EPA pilot program under the Partnership for Sustainable Communities banner (Denver Housing Authority [DHA], 2009; EPA, 2010).

Statutory and financial toolbox: Denver has a strong land-use framework to support TOD, including a strategic plan for transportation and TOD and a high-density mixed-use transit overlay district. Regional funding is available for TOD station area planning, as well as joint development technical assistance from RTD. The city has engaged in extensive community-based TOD planning for many neighborhoods areas along the corridor, although not every station area has a workable plan as yet (Denver Community Planning & Development [DCPD], 2010; CTOD, 2007).

Affordability, however, is weakly supported. While Denver does have an inclusionary zoning ordinance, it applies only to newly constructed ownership units, and must only provide affordability at 80–95% of AMI; the restrictions expire after 15 years. The city lacks policies or tools for the preservation of the many affordable units that are likely to be displaced by new market-rate development as the inner city stations grow. However, since West Corridor construction got underway just as the economy was cooling, the area did not experience the sort of speculation that might have been expected a few years earlier. In suburban Lakewood, the city has used its land-use discretion to keep prices lower on some large station-area parcels (by not immediately upzoning for TOD), which has enabled the city's own housing authority to bank sites for future affordable development (CTOD 2007, 2008b).

Federal role: EPA, HUD, and DOT are involved in several station-area planning and redevelopment efforts along the corridor. In October 2010, DCPD was awarded a \$2.95 million Sustainable Community Challenge Grant for strategic implementation of its TOD plans for the West Corridor, with one goal being more than doubling (from 1,400 to 3,000) the number of affordable units in the corridor. The La Alma/Lincoln Park neighborhood, near the Federal/Decatur station, was another pilot recipient of EPA brownfields technical assistance, and the city and county of Denver also won an area-wide brownfields planning grant. The first \$40 million of an expected \$290 million in New Starts funding flowed to the West Corridor in 2008, with the federal contribution covering slightly less than half of the total capital expense (CTOD, 2008; EPA, 2010; HUD, 2010e).

The experience of one LIHTC-financed new development in the corridor has highlighted a paradox related to the Low Income Housing Tax Credit scoring system in a mixed-income TOD context. The 111-unit low income rental project, located in what was in 2000 a qualifying census tract for basis-boosted LIHTC, was unable to complete a second phase of development because the proportion of households below 60% AMI had fallen below the basis-boost threshold by 2007. While the absolute number of low-income households had stayed roughly the same, the movement of new, higher income households into the area had pushed the census tract below the limit (CTOD, 2008b).

Outcomes, prospects, lessons: As mixed-income TOD is, by its nature, designed to attract higher income households to areas that may have previously been more uniformly low income, the LIHTC boost-scoring paradox is a notable lesson, suggesting the need for a tweak to the program for its maximum efficacy in TOD contexts. Looking at the region more broadly, the Denver outcomes so far show that, in a cooler market, strong planning and housing agencies can

work around a weak affordability mandate. The outcome might be different, however, if the West Corridor had gotten underway just a few years earlier.

Conclusion and Implications

Compounded Complexity: Prospects for Affordability and TOD

As the case studies show, when the twin goals of affordable housing and TOD are combined, the statutory and financial environments interact to form an even more complex mix of actors and stakeholders, funding streams, and regulatory requirements, compounding the complexity of two already challenging forms of development. Bringing together the literature on both TOD and affordable housing, along with the findings so far in the case study areas, what are the main lessons to be drawn?

Regarding housing in particular, three lessons. First, new TOD tends to be built for higher income households, so without real affordability measures there will be no long-term benefit for lower income households. Second, in places with large stocks of rental housing that provide affordable living places for lower income households, the market will tend to revert to ownership to take advantage of rising home and land values. Preservation strategies will be of prime importance in these places. Third, in station areas to large concentrations of low-income households, especially public housing, private sector investment may be hesitant to come, so the benefits of a mixed-income community will not necessarily manifest without serious commitment by local leaders.

Across all three of these lessons, local support (from public entities, CDCs, developers, and voters) is important to achieving a balanced success. Without it, development around transit, especially along new lines, is likely to be lopsided and cater only to the upper end of the market, skipping over the areas that could benefit most from the economic impacts, increased

accessibility, and improved urban environment. Taking this further, in regions that permit inclusionary zoning, the use of in-lieu fees (which are rarely sufficient to cover the costs of construction of affordable housing) or off-site construction of affordable units could undermine the promise of reducing transportation costs for lower income households. In-lieu fees and off-site construction should be limited for projects located within TOD districts to ensure that affordable units are built or preserved in places with the best transit connectivity.

Looking at local land-use policy, we see another paradox: zoning reform that normalizes higher density, lower parking, more pedestrian oriented transit districts would smooth the way for TOD, removing time and uncertainty from the approval process and presumably calming lenders' nerves somewhat about financing these non-standard projects. But making this kind of zoning as of right gives away one of the key levers for inclusion of affordable housing: in the absence of statutory tools like inclusionary zoning or mandatory set asides, with higher density and so forth a given in station areas, local governments lose an important bargaining chip for getting developers to agree to build affordable units. Land use reforms that normalize greater FAR or residential densities in transit districts should also include statutory frameworks to ensure construction of sufficient affordable units. In places where inclusionary zoning or mandatory set asides are prohibited, voluntary tools that help reduce development time and costs, such as expedited reviews or the planned unit development process, should be keyed to affordable unit production.

What Is the Appropriate Federal role? Thoughts and Recommendations.

Developers and investors in the affordable TOD environment must be simultaneously motivated and patient, and lenders and public entities must develop a sophistication regarding these kinds of projects that allows for greater ambiguity and flexibility than has been the norm in

recent decades. Since, at the project level, most of the key decisions and policies are local ones, the federal government's role through the Sustainable Communities Partnership should be to cultivate these characteristics in stakeholders, while seeking to reduce the complexity of the policy levers it directly controls.

The multiplicity of jurisdictions involved in mixed-income TOD is one area where neither federal nor any other level of government has the power to reduce complexity in anything more than a marginal way: federal agencies, state DOTs, regional MPOs and transit agencies, municipalities (often several within a given corridor), housing agencies, CDCs, community and neighborhood groups, and developers all have roles at various points, to say nothing of the administrators of the various public and private funding sources in play. Success requires a reasonably coordinated effort from all players often over the course of many years. While coordination is now happening between the agencies of the Partnership, and the harmonizing of federal policies is beginning to encourage greater regional planning and participation across key policy areas, many of the key programs are will continue to be administered by a patchwork of local, regional, and state entities. This is one of the major limitations to the possible impact of the Partnership: harmonization of federal policies does not imply reorganization or greater bureaucratic cooperation locally, though successful affordable TOD depends on it. Regardless of federal efforts, it will still be the regions that do the best job of aligning their own cross-jurisdictional goals that will have the best chances of success.

In the current environment of fiscal restraint, it is unlikely that Congress is going to unleash new streams of funding for federal agencies to dedicate to urban redevelopment around transit. Perhaps the best role for the Partnership, given that circumstance, is to help rationalize standards for assessing the differing impact of TODs compared to more standard development,

on parking, local circulation and infrastructure impacts, and transit usage, so that both the public and private sectors can work more intelligently on getting these projects developed. Many lenders' reticence to finance TOD might be lessened if they had a more standardized way to examine the projects and compare them from one place to another, as well as to more traditional, auto-based developments that are also competing for their dollars. The Partnership should continue to underwrite local capacity building and the assembly of a body of best practices as the amount of on-the ground experience grows.

For aiding in the identification of possible synergies between the agencies, the Partnership should develop a federal clearinghouse for tracking of subsidized housing, contract expirations, and ex-HUD units and projects in terms of their present and future transit accessibility. Simply put, encourage better integration between geocoded data in DOT and HUD databases. This information exists in various forms and places, but not in an easily accessible way and not within a centralized repository.

Legislatively, there are several areas where Congress could do good. A continued devolution of power from state DOTs to MPOs in the next transportation authorization will help to reduce the turf wars and bureaucratic inefficiencies that slow transportation planning and implementation and ultimately drive up costs and uncertainty for all stakeholders. Creation of a federal location efficiency standard for urbanized areas could enable large scale creation of Location Efficient Mortgages and other location-dependent financing by the private market; taken further, this could allow the pegging of affordability formulas to transportation costs as well as housing, and increasing public knowledge of the locational benefits of certain places. Index federal programs to this standard where possible, and incorporate it into RFPs and grant scoring. Based on observations of the experience of getting the Illinois location efficiency

standard passed, realistically such a requirement would need a rural equivalent or exception to get wider legislative buy-in, as rural areas would be distinctly disadvantaged by location efficiency requirements.

Legislation should also address how the basis boost works in TOD projects financed with LIHTCs, so that projects in the pipeline that are currently part of a qualifying census tract, but which are being developed over a longer period of time, do not lose a chunk of their funding when the surrounding neighborhood improves, as expected (through construction of new housing or conversion of existing affordable housing to market rate or more expensive forms). Because the density of census tracts might rapidly rise with new construction, and much of the new residential construction is likely to be market rate, something like a “lookback period” for the basis boost, pegged to conditions when the project was initially approved, might be appropriate. Such a program could phase out over time rather than in the more binary fashion it currently does, which ensure that the benefits of the LIHTC for financing affordable housing would have time to react to changing conditions in a given project area. Even without this reform, other states could follow Missouri’s lead in keying LIHTC basis boost to transit access as well as to qualifying census tracts (or allow the boost to remain beyond tract’s leaving qualification in transit-accessible areas) (Quigley, 2010). Again, this would help reduce uncertainty and wasted time and efforts in planning affordable developments.

Overall, affordable TOD is likely to face a rough patch over the next few years, as the recession’s fallout continues to drag on all development and with the election of a new Congress that has little taste for things dense, urban, and expensive. It’s conceivable that the Partnership won’t survive the next budget cycle in any recognizable form, even though it has only just begun its work. Perhaps, at the end of the day, the extremely local circumstances of most aspects of

affordable TOD, and the dedication necessary in its practitioners, will allow it to thrive even within this difficult environment.

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Appendix A

Federal Housing and Community Development Programs: Outlays and Eligible Units

Fiscal Year	Rental Assistance (a)	Public Housing (b)	Other Housing Assistance (c)	Block Grants (d)	Homeless and HOPWA (e)	Total Nominal Dollars	Total 2007 Dollars
1980	2104	2,185	924	3910	--	9,123	20,539
1981	3115	2,401	1,011	4048	--	10,575	21,685
1982	4085	2,574	1,074	3795	--	11,528	22,126
1983	4995	3,206	1,003	3557	--	12,761	23,456
1984	6030	2,821	910	3823	--	13,585	24,081
1985	6818	3,408	861	3820	--	14,907	25,595
1986	7430	2,882	785	3329	--	14,426	24,205
1987	8125	2,161	758	2970	2	14,016	22,918
1988	9133	2,526	752	3054	37	15,501	24,574
1989	9918	3,043	690	2,951	70	16,673	25,444
1990	10581	3,918	679	2,821	82	18,081	26,605
1991	11400	4,544	687	2981	120	19,732	27,983
1992	12307	5,045	610	3,099	145	21,205	29,335
1993	13289	6,296	627	3,416	172	23,799	32,192
1994	14576	6,771	607	4,439	189	26,583	35,201
1995	16948	7,414	603	5519	270	30,754	39,886
1996	15779	7,605	600	5761	453	30,199	38,427
1997	16393	7,687	629	5,731	718	31,158	38,968
1998	16114	7,534	576	6,360	916	31,499	38,922
1999	15652	6,560	547	6,748	1,032	30,539	37,247
2000	16692	7,193	667	7,077	1,100	32,729	39,128
2001	17494	7,483	659	7,047	1,208	33,892	39,584
2002 (g)	19394	8,193	644	7,349	1,358	36,937	42,330
2003	21941	7,837	630	7,229	1,376	39,013	43,822
2004	23498	7,490	620	7,113	1,492	40,213	44,024
2005	24495	7,426	603	7225	1,562	41,312	43,823
2006	24756	7,560	569	7,086	1,655	41,626	42,742
2007	25674	7,295	559	7,011	1,664	42,202	42,202

Source: Table 12 (p. CRS-36) in McCarty, M., Perl, L., Foote, B. E., Jones, K., & Peterson, M. (2008). *Overview of federal housing assistance programs and policy* (CRS report #RL34591). Congressional Research Service, U.S. Library of Congress. Washington, DC: Congressional Research Service. Table prepared by CRS based on HUD data.

Notes:

- a. Rental Assistance includes Section 8, Section 202 and Section 811.
- b. Public Housing includes Public Housing Capital Fund, Public Housing Operating Fund, Public Housing Drug Elimination Program, and HOPE VI.
- c. Other Housing Assistance includes Section 235, Section 236, and Rent Supplement.
- d. Block Grants includes Community Development Fund (CDBG), HOME Investment Partnerships, Native American Housing Block Grants and Housing Counseling Assistance.
- e. Homeless includes HOPWA, Homeless Assistance Grants, Emergency Shelter Grants, Shelter Plus Care (including renewals), Section 8 SRO, Supportive Housing, Innovative Homeless Demonstration Program, Supplemental Assistance for Facilities to Assist the Homeless.
- f. Prior to FY1998, funding for the Native American housing programs that were consolidated by NAHASDA was included in other accounts.

g. Congress periodically provides emergency funding through the CDBG program following disasters, generally in amounts less than \$1 billion per year. However, Congress provided substantially more funding following the September 11, 2001 terrorist attacks (\$3 billion) and following the 2005 hurricanes (over \$16 billion). The amounts shown in Table 12 include spending of emergency funds, except for FY2002-FY2007, when spending of emergency CDBG funding was excluded.

Fiscal Year	Rental Assistance (a)	Public Housing	Other Housing Assistance (b,c)	Annual Total
1980	1,153,311	1,192,000	761,759	3,107,070
1981	1,318,927	1,204,000	774,524	3,297,451
1982	1,526,683	1,224,000	757,213	3,507,896
1983	1,749,904	1,250,000	663,424	3,663,328
1984	1,909,812	1,331,908	617,956	3,859,676
1985	2,010,306	1,355,152	577,780	3,943,238
1986	2,143,339	1,379,679	553,765	4,076,783
1987 (d)	2,239,503	1,390,098	521,651	4,151,252
1988 (d)	2,332,462	1,397,907	496,961	4,227,330
1989 (d)	2,419,866	1,403,816	491,635	4,315,317
1990	2,500,462	1,404,870	481,033	4,386,365
1991	2,547,995	1,410,137	473,945	4,432,077
1992	2,796,613	1,409,191	428,986	4,634,790
1993	2,812,008	1,407,923	434,498	4,654,429
1994	2,925,959	1,409,455	413,999	4,749,413
1995	2,911,692	1,397,205	415,165	4,724,062
1996	2,958,162	1,388,746	404,498	4,751,406
1997	2,943,634	1,372,260	385,651	4,701,545
1998	3,000,935	1,295,437	359,884	4,656,256
1999 (f)	2,985,339	1,273,500	337,856	4,596,695
2000	3,196,225	1,266,980	302,898	4,766,103
2001	3,396,289	1,219,238	262,343	4,877,870
2002	3,420,669	1,208,730	233,736	4,863,135
2003	3,476,451	1,206,721	179,952	4,863,124
2004	3,508,091	1,188,649	155,289	4,852,029
2005	3,483,511	1,162,808	128,771	4,775,090
2006 (g)	3,498,363	1,172,204	123,503	4,794,070
2007	3,532,079	1,155,377	100,595	4,788,051

Source: Table 13 (p. CRS-38) in McCarty, M., Perl, L., Foote, B. E., Jones, K., & Peterson, M. (2008). *Overview of federal housing assistance programs and policy* (CRS report #RL34591). Congressional Research Service, U.S. Library of Congress. Washington, DC: Congressional Research Service. Table prepared by CRS based on HUD data.

Notes:

- a. Rental Assistance includes Section 8, Section 202, Section 811.
- b. Other Housing Assistance includes Section 235, Section 236, Rent Supplement.
- c. Total is adjusted for units receiving multiple subsidies.
- d. Voucher counts for FY1987-FY1989 reflect vouchers leased, rather than reserved (contracted) vouchers.
- e. Prior to FY1998, Native American public housing units were included in the count of public housing units. Beginning in 1998, those units are not included in the public housing unit count.
- f. The voucher count in FY1999 reflects obligated vouchers, rather than reserved (contracted) vouchers.
- g. Beginning in FY2006, HUD reported the total number of “funded” vouchers, which is HUD’s estimate of how many vouchers the amount of funding provided by Congress would sustain, given the distribution of that funding.

Appendix B

Typology of Transit-Oriented Places

The Center for Transit-Oriented Development created a typology of eight distinct transit-oriented place types, which encompasses most other definitions. The typology, drawn from the publication *Station Area Planning: How To Make Great Transit-Oriented Places* (CTOD 2008a), is summarized below.

All except the corridor type are based on a 1/2-mile radius centered on a transit station, with additional detail about the characteristics of the 1/4-mile radius closest to the station. The typology addresses residential affordability only obliquely, through its treatment of the housing mix and density (expressed in dwelling units per acre, or DU/acre) that CTOD recommends as viable and appropriate for each place type. Residential densities and minimum commercial floor–area ratios (FAR) in the descriptions refer to the level of development a place type can *potentially* support, not necessarily what is currently present.

Regional center: Downtown business and cultural districts in the largest U.S. cities, with business, retail, and cultural resources catering to regional or national markets. Richest mix of transit types, with peak-hour travel frequencies of less than 5 minutes. Highest land-use intensities in the region, with a diverse mix of commercial, employment, and civic/cultural uses. Housing is often poorly represented in the mix, and may be difficult to incorporate because of very high land values. Housing mix: mid-rise and high-rise apartments and condos; 75–300 DU/acre. Commercial FAR: 5.0. Examples include Chicago’s Loop; Midtown Manhattan; Center City Philadelphia; downtown Boston, San Francisco, or Denver (CTOD, 2008a, pp. 4, 8, 10).

Urban center: Similarly heterogeneous downtown business districts in smaller cities,

with lower densities and intensities than regional centers. Often retain a historic character, with older buildings and narrower streets. Businesses and cultural resources generally cater to residents from throughout the city. As commuter hubs for their regions, multiple transit options are available, with peak frequencies on the order of 5–15 minutes. Housing mix: mid-rise, low-rise, some high-rise and townhomes; 50–150 DU/acre. Commercial FAR: 2.5. Examples: Rosslyn-Ballston corridor (DC region); downtown Seattle, Baltimore, Portland, Pasadena (CTOD, 2008a, pp. 4, 8, 10).

Suburban center: Satellite centers of activity outside the traditional downtown business district. Levels of density and intensity of land-use similar to that of urban centers. Heterogeneous mix of uses attracting users from throughout an urban region; both an origin and destination for commuters. Development is often more recent than in urban or regional centers, reflected in more contemporary building and circulation design (i.e. greater accommodation for car travel) and intensity of use in the 1/4-mile radius that is noticeably greater than in the wider 1/2-mile area. Typically located at key nodes in regional transit systems, with a mix of modes and low peak-hour headways (5–15 minutes). Housing mix: mid-rise, low-rise, some high-rise and townhomes; 35–100 DU/acre. Commercial FAR: 4.0. Examples: Evanston, IL; Silver Spring, MD (DC region); Denver Tech Center; Lindburgh City Center (Atlanta region) (CTOD, 2008a, pp. 5, 8, 10).

Transit town center: Smaller centers of activity catering mostly to a local market. Moderate densities and land-use intensities compared to urban or suburban centers, but retains a good mix of uses, and often a good mix of housing types. More likely an origin than a destination for commuters. Usually centered on a station area on primary transit line, perhaps with feeder transit service oriented to transfers to main line, and peak frequencies of 15–30

minutes. Greatest densities in 1/4-mile radius of station. Housing mix: mid-rise, low-rise, townhomes, small-lot single family; 20–75 DU/acre. Commercial FAR: 2.0. Examples: Hillsboro, OR (Portland region); Naperville, IL (CTOD, 2008a, pp. 5, 8, 10).

Urban neighborhood: Moderate- to high-density residential areas with local-serving retail and limited commercial or light industrial uses. Development may be oriented to a high-connectivity street grid more than to transit. Well served by several modes of transit (5–15 minute peak frequencies), but activity is less focused on the immediate station area than in center place types, instead being spread at a fairly consistent density throughout the area. Typified by many pre-World War II neighborhoods or suburbs that initially grew with transit. Housing mix: mid-rise, low-rise, townhomes; 40–100 DU/acre. Commercial FAR: 1.0. Examples: many Manhattan and Brooklyn neighborhoods such as Greenwich Village, Harlem, Flatbush, Fort Greene; University City, Philadelphia; Pearl District, Portland; Chicago neighborhoods such as Albany Park, the South Loop, Lincoln Square (CTOD, 2008a, pp. 6, 9, 11).

Transit neighborhood: Low- to moderate-density residential areas served by rail or high-frequency bus service (15–30 minute peak frequencies). Limited commercial activity; insufficient density to support much more than local convenience retail. Intensity of activity is spread throughout the area rather than being concentrated next to stations, though retail may tend to be in nodes rather than uniformly distributed. Often found in older streetcar suburbs or postwar suburban neighborhoods along transit lines. Such neighborhoods are good candidates for more intense transit-oriented development, bringing a greater mix of uses and improved transit connectivity, as in urban neighborhoods. Housing mix: low-rise, townhomes, small-lot single family, some mid-rise; 20–50 DU/acre. Commercial FAR: 1.0. Examples: Plano, TX; Capitol Hill, Washington DC (CTOD, 2008a, pp. 6, 9, 11).

Special use/employment district: Station areas which, because of a large institutional or civic presence such as a university or government center, or entertainment venues such as a sports stadium, are likely to remain largely focused on a single use. Transit service may be focused on accommodating high ridership for peak usage of central activity, with little service outside of peak times. Street grid may be poorly connected to surrounding areas. Residential development may make sense in areas with schools or employment centers, but will not be appropriate in many special-use districts. Housing mix: mid-rise and high-rise if appropriate; 50–150 DU/acre. Commercial FAR: 2.5. Examples: Camden Yards, Baltimore; Illinois Medical District, Chicago (CTOD, 2008a, pp. 7, 9, 11).

Mixed-use corridor: Strips of activity well served by transit but without a distinct center. Intensity of uses is highest along the center of the corridor, with a dense mix of residential, commercial, and civic uses clustered along the main strip and lower density housing further back. Transit service is often a series of closely spaced bus or light rail stops with high frequency service (5–15 minute peak headways). Often developed along former streetcar or trolley lines, these corridors remain good candidates for redevelopment of those modes or new bus rapid transit service. Housing mix: mid-rise, low-rise, townhomes, small-lot single family in areas removed from corridor; 25–60 DU/acre. Commercial FAR: 2.0. Examples: International Blvd., Oakland; University Ave., St. Paul, MN (CTOD, 2008a, pp. 7, 9, 11).

Appendix C

Case Study Data Summary

Region (Study zone)	Population; households Region (Study zone)	Year of rail service start; system extent; fixed-guideway modes (Stations in study zone)	Median HH income (\$) Region (Study zone)	% HH income <\$25K Region (Study zone)	Res. pop. density; HH res. density (pop/res. acre; HH/res. acre) (a) Region (Study zone)	Housing tenure (% owner occd.) Region (Study zone)	Avg. vehicles per HH Region (Study zone)
Boston (Fairmount Line) (b)	4,595,442; 1,785,551 (84,031; 27,926)	1855; extensive legacy; rapid transit, light and commuter rail, BRT, ferries (8)	51,728 (34,150)	24.31 (38.38)	10.50; 4.28 (27.76; 9.37)	59.19 (34.33)	1.52 (0.99)
Chicago (South Suburban Green TIME Zone transit corridor) (c)	8,272,768; 2,971,690 (410,501; 156,856)	1892; extensive legacy; rapid transit and commuter rail, planned BRT (42)	51,680 (41,563)	21.95 (33.03)	13.27; 4.84 (20.95; 8.00)	64.62 (48.07)	1.54 (1.15)
Portland, OR (Portland Streetcar)	1,918,009; 742,381 (31,512; 19,841)	1986; new expanding; light rail, streetcar, commuter rail (42)	47,061 (28,586)	22.91 (50.04)	9.01; 3.58 (24.38; 16.39)	62.87 (14.91)	1.77 (0.78)
Charlotte, NC (Lynx Blue Line South Corridor)	1,499,293; 575,510 (20,807; 9,172)	1996; new expanding; light rail, trolley, BRT (15)	46,120 (39,303)	23.55 (31.32)	5.56; 2.24 (9.13; 4.36)	68.39 (34.91)	1.80 (1.39)
Minneapolis/St. Paul (Hiawatha Line)	2,968,806; 1,137,313 (43,225; 19,122)	2004; new expanding; light rail, planned commuter rail and BRT (18)	54,317 (30,858)	18.43 (42.57)	8.01; 3.21 (19.71; 9.17)	72.43 (38.53)	1.77 (1.05)
Denver (West Corridor LRT) (d)	2,400,570; 940,744 (33,357; 12,590)	1994; new expanding; light rail, planned electric commuter rail and BRT (10)	51,761 (33,423)	19.79 (36.80)	10.63; 4.23 (14.16; 5.25)	66.28 (31.72)	1.80 (1.37)

Sources: Data aggregated to rail corridor station areas (1/2-mile radius) using the Center for Transit-Oriented Development's TOD Database, http://toddata.cnt.org/db_tool.php.

Population: Census 2000 Summary File 1 p001001 aggregated from Census 2000 Blocks.

Household counts: Census 2000 Summary File 1 p001001 aggregated from Census 2000 Block Groups

Regional rail service age, size, modes, station counts: CTOD 2007, FTA 2010

Median household income: Census 2000 Summary File 3 p053001 weighted average from Census 2000 Block Groups

Percentage of households with income under \$25,000: Census 2000 Summary File 3 (p052002 + p052003 + p052004 + p052005) / (p052001) aggregated from Census 2000 block groups

Population residential density: Census 2000 Summary File 1 p001001 / arealand (in acres) aggregated from Census 2000 Blocks (for blocks with greater than 1 household per acre)

Household residential density: Census 2000 Summary File 1 p015001 / arealand (in acres) aggregated from Census 2000 Blocks (for blocks with greater than 1 household per acre)

Housing tenure: Census 2000 Summary File 3 (h026002) / (h026001) aggregated from Census 2000 block groups.

Average vehicles per household: Census 2000 Summary File 3 (h046001) / (h007001) aggregated from Census 2000 block groups

Average housing burden: Housing + Transportation Affordability Index Model ami_h aggregated from Census 2000 Block Groups

Average transportation burden: Housing + Transportation Affordability Index Model ami_t aggregated from Census 2000 Block Groups

Notes:

a. Due to the aggregation method, the measure of households/res.ac. is not directly comparable to the DU/res.ac. counts referenced in the TOD Typologies section; the HH/res.ac. counts in this column appear to show lower densities than the equivalent DU/res.ac. These counts are included here for purposes of comparison across regions and between regional and study zone densities.

- b. Includes 4 station areas currently in late planning or under construction. South Station (downtown Boston) station area not included in aggregates or station count.
- c. Due to limitations of the aggregation tool, study area data includes the entirety of the three main rail lines in the area (Metra Electric District, Rock Island District, and SouthWest Service). Does not include nine planned Metra SouthEast Service stations, pending final alignment and locations, or South Shore Service Hegewisch station area.
- d. Line is currently under construction. Land acquisition has been completed for the entire length of the corridor. Service is slated to begin in May 2013.